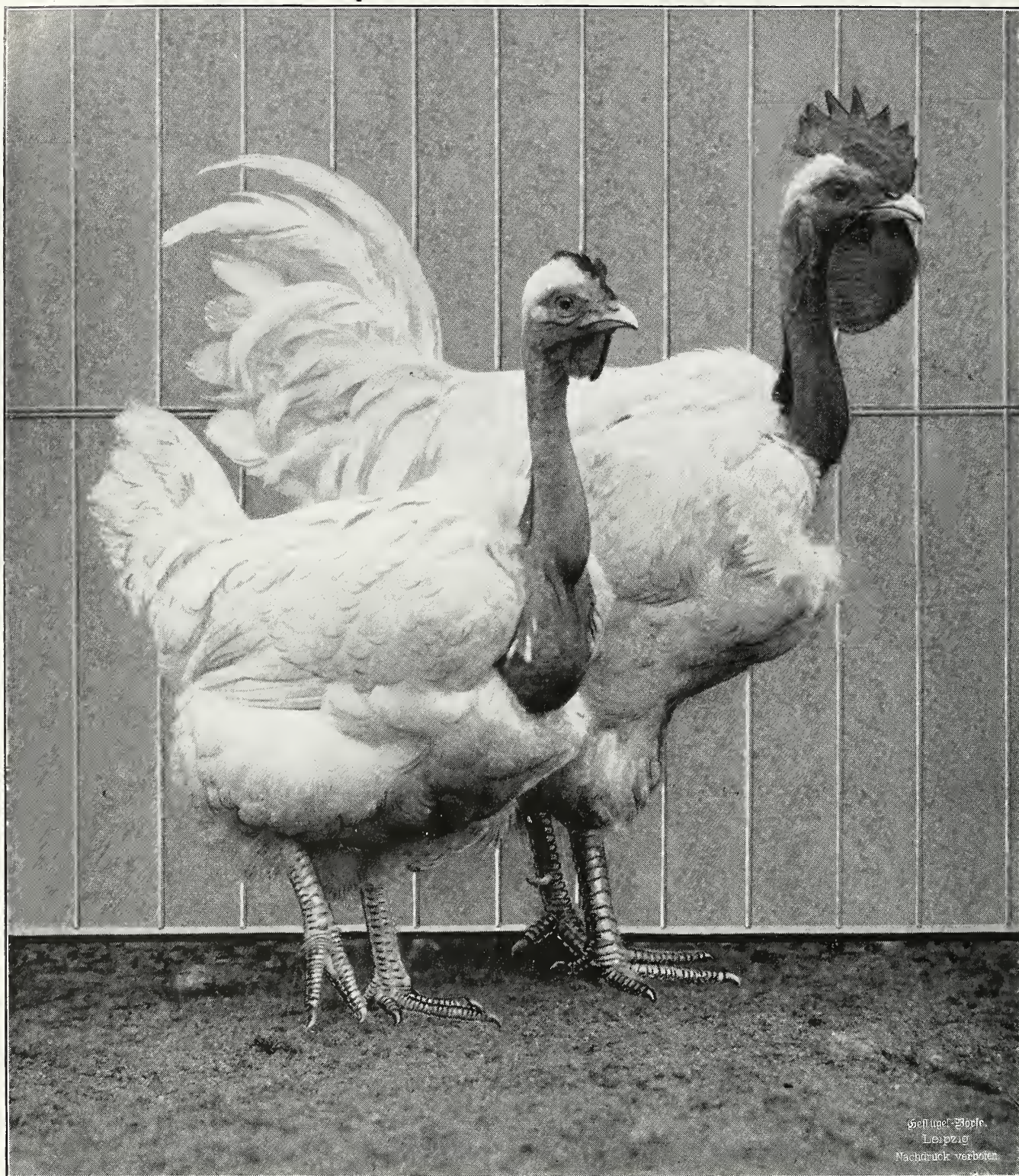


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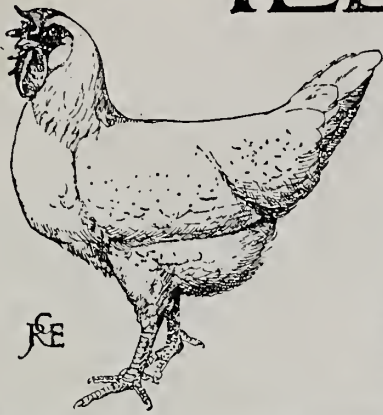


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A Pair of Transylvanian Naked Neck Fowls.

See Pages 302 and 303.

THE ILLUSTRATED POULTRY RECORD



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April 1, 1911.

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EDITORIAL NOTICES.

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The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the ILLUSTRATED POULTRY RECORD.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

The Overseas Trade.

Intercommunication with other countries in these later days is comparatively easy. Our ships traverse every ocean, sailing thence from almost every port in Great Britain. It is freely acknowledged by breeders in other countries that we have stock they would be glad to share. The problem, therefore, is to bring buyers and sellers together, so that the exchange may be made satisfactory to both of these parties. No one can think for one moment that up to the present more than a moiety of this business has been done, and with the growing importance of the poultry industry in every section of the world the demand in the near future should be vastly greater than in the past. In the present issue we do a little to help those who are seeking to extend their business in this direction. Probably the home sale will always be the greater, but at the same time there is no reason why that with the Colonies and foreign countries should not be extended enormously. To accomplish so desirable a result there are two main points to be kept in view—namely, first, that British breeders shall push out into the regions beyond, and prove to their possible customers that they have what the latter require and must have. There is only one way of doing this, publicity, assuming that the quality is there. Such involves a measure of speculation and risk. But the reward will be great. And, second, that our breeders shall do all in their power to facilitate the trade, by meeting the requirements of buyers and rendering all help to simplify intercommunication. The purchasers have to risk considerably, and whatever will make the process easier is bound to tell. We commend, therefore, the suggestions made in the present issue.

Poultry Conference in Dublin.

We understand that the Irish Department of Agriculture, which has done so much for the promotion of the poultry industry in Ireland, and whose success has on several occasions been mentioned in the ILLUSTRATED POULTRY RECORD, is making arrangements for the holding of a conference at Dublin early in May. The need for such gatherings from time to time is recognised, and the value of those which have gone before is unquestionable. Developments take place so rapidly, and such marked strides have been made of late years, that it is all-important for public bodies and those engaged in teaching work and organisation to confer together, not for the purpose of adopting hard-and-fast methods, but of interchanging ideas and experiences, and by discussion to separate the wheat from the chaff. The time may come when we shall have a Poultry Parliament, meeting annually in different parts of the Kingdom, just as do the Church and Trades Union Congresses. It is stated that the Irish Department of Agriculture intends to issue invitations to public authorities and societies in Great Britain as well as Ireland, and we shall look forward to the programme of the meetings with great interest. There are many questions which, in view of the need for extension of the national food supply, are pressing themselves forward at the present time, especially as the entire scheme of rural education is undergoing a process of revision, and development of our home resources is receiving a large amount of attention. It may be assumed that as the Dublin Conference is to be summoned by a Government Department, there are phases of the question which must necessarily be debarred. It is, however, satisfactory to note that the subject has received recognition of importance in this manner.

Lady Salisbury in Canada.

In January the President of the National Poultry Organisation Society, whilst on a visit to Ottawa as guest of the Governor-General and the Countess Grey, availed herself of the opportunity of visiting the Great Macdonald College at Ste. Anne-de-Bellevue and the Experimental Farms near Ottawa for the purpose of inspecting the poultry sections. Lady Salisbury was accompanied by Earl Grey, and was received by Professor Elford at Macdonald and Professor Gilbert at Ottawa, who conducted the party around the respective plants. The distinguished visitors were greatly impressed, more especially by the extensive and fine equipment at Macdonald, which up to the present time is one of the most complete in existence. The season was not the most favourable by reason of climatic conditions, but it revealed some of

the difficulties which poultry-keepers have to meet in Canada, and at the same time showed what can be accomplished in spite of these hindrances, unknown in the United Kingdom. We are sure that poultrymen across the Atlantic will appreciate the interest manifested by the Governor-General of Canada and the Marchioness of Salisbury. It may not be generally known that Earl Grey more than thirty years ago gave considerable attention to poultry at Howick.

Another Scare.

A writer in the *Times*, whose name we mercifully withhold, has been attempting to frighten egg eaters by suggesting that preserved eggs are dangerous as articles of food. After telling how preservation takes place, he says :

No one who knows the exceedingly unstable nature of albumen can believe for an instant that it has remained unchanged all this time. I have known many cases of severe colic caused by such eggs, and I believe them to be absolutely poisonous.

He goes on to call "the sale of them as new-laid an absolute fraud." With this everyone will agree. But we venture to say that not one preserved egg in a hundred million is sold as "new laid." They may be offered as "country" eggs, as "best" eggs, or as "English" eggs, but no trader, were he so disposed, would attempt a designation that must recoil on his own pocket. Moreover, his customers know better than that. This overstatement makes the quoted section more than doubtful, and we believe it has no scientific justification. Perhaps if eggs were kept for years instead of months, as indicated by the experiments at the Aberdeen College of Agriculture some years ago, there might be a measure of justification, but not the preserved egg of commerce when tested out. Considering the hundreds of millions of these preserved eggs sold annually, and the importance to home producers of encouraging the system, there must be, were the theory true, more pangs than we are capable of. The colic was evidently from another cause. The writer, unless he is a cold-storage advocate, in which case we commend to him the study of moulds and bacteria, must try something else.

Danish Methods.

Mr. Rider Haggard has again been telling in the *Times* the story of the Danish egg trade, to which it is impossible to call attention too often, for it is a forceful example of what can be accomplished by loyal co-operation on the part of producers who are banded together in great egg export associations, to which the remarkable success of the poultry industry in

Denmark is due. Special attention is called to the way in which members are penalised if they send in a bad egg. The fine of 5 kroner (5s. 6½d.) is a sufficient deterrent, for, as Mr. Rider Haggard says, "Such a person very rarely produces a second bad egg." The responsibility is his, and he has to pay smartly for his negligence. The consequence is that the standard of quality has been raised greatly, and it is not too much to say that Danish eggs are often better when landed in England than those produced in this country which have been marketed in the ordinary manner. One important factor should not, however, be forgotten—namely, that Denmark is almost entirely an exporting country, and it has not the local demand which profoundly affects the problem in Great Britain. There the eggs shipped to our shores are selected. Here all have to be sold and consumed. In spite of that, however, we have much to learn from Danish experiences. It is to be hoped that the success achieved will not lead to carelessness, as is often the case. We say this because reports have come to hand that the quality is not being maintained. Such would certainly be fatal to the trade which has been built up on sending to England the best produce possible under the prevailing conditions.

A Substitute for the Dunmow Flitch.

"Home Counties" has been responsible for many new ideas and developments, mainly of a practical nature. If he succeeds in making Dunmow the pioneer of cock crowing matches in this country, now that the competition for its famous flitch of bacon is merely a matter of history, and that matrimonial assize no longer amuses the North Essex people, it may be we shall yet see a statue erected to him in its market place. As mentioned in the POULTRY RECORD last year (Vol. II., p. 315), these matches are a great sport in the border districts of Belgium and Germany, where they form a means of recreation for a large section of the community, and it is claimed that the development of the crow has a utilitarian value. Once the sport is introduced it will probably spread like wildfire, perhaps becoming a new feature for attracting visitors to poultry shows. It would be an interesting variation if, in addition to beauty of plumage or to laying competitions, prizes were offered for the song of cocks. Mere size would not be in it. The fascination of breeding would be intensified if, say, at the Crystal Palace or Birmingham, all the Orpington or Game cocks had to display their prowess of voice. The railway companies would have to put on special trains for the accommodation of visitors. The music of a dog show would be nothing to it, and there

would be as much enthusiasm as for the Christmas pantomime. Exhibition committees should take action at once, or they may be forestalled. Perhaps ere long we shall have a special weekly devoted to this sport and evening papers issuing special "Crowing Editions." The idea has evidently caught on, for Mr. J. W. Robertson-Scott has been inundated with applications for particulars.

The Four Months' Laying Competitions.

The final results and awards of the two Laying Competitions which were carried out by the Utility Poultry Club have now been announced. The competitions mark another step in the useful work done by the club, and show the progress that has been made in the evolution of the laying hen and the results that can be obtained by careful selection. The possibility of a pullet laying 103 eggs in 112 days during the four worst months of the year would have been scoffed at a few years ago, but the recording trap-nest has shown that this feat has been accomplished in the present competitions. In the Southern Competition, which has been held at Grimley, near Worcester, under the management of Mr. George Nicholls, 78 pens of 4 birds each have been competing, and the premier honours go to a pen of Buff Orpingtons (Pen 13), with a score of 272 eggs, value £1 19s. 2½d., during the 16 weeks; the second place is taken by a pen of White Wyandottes (Pen 28) with the same number of eggs, but with a value of £1 18s. 7½d. Both these pens have been awarded the gold medal of the club and First Class Certificates. The owners are Mr. T. P. Rawcliffe, St. Michael's-on-Wyre, near Garstang, Lancs, and Mr. F. Baines, Corsham, Wilts.

The Northern Competition.

In the Northern Competition, held at Bartle, near Preston, under the management of Mr. William Barron, even better results have been obtained, the leading pen, White Wyandottes, winning with a score of no less than 301 eggs, value £2 3s. 11½d. The second, third, and fourth places were taken by pens of White Wyandottes, Black Leghorns, and Anconas, with scores of 305 eggs, value £2 3s. 4½d.; 293 eggs, value £2 2s. 4½d.; and 282 eggs, value £2 0s. 0½d. respectively. All these pens have been awarded the Gold Medal of the club and First Class Certificates. The fortunate owner of the leading pen is Dr. H. Savory, Abbots, Bromley, Rugeley, the next three pens being owned respectively by Mr. J. Townson, of Woodplumpton, near Preston; Mr. T. P. Rawcliffe, St. Michael's-on-Wyre, near Garstang, the winner in the Southern Competition; and Captain F. P. Pierson Webber, of Kineton, Warwickshire.

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ANATOMY OF THE TURKEY.--II

By NELLIE B. EALES, B.Sc.

[*So far as we are aware there has never been published a complete anatomy of the turkey, which has always been assumed to be identical with that of the fowl. Miss Eales has made exhaustive study of the subject, and we are glad to have the opportunity of publishing the results of her valuable inquiry with drawings.*—EDITOR I. P. R.]

BOTH embryological and fossil evidence show that the limbs of the birds are specialised structures, being adaptations to the habits and mode of life of the animal. Evolution has caused the fore-limb to become modified in order to make possible the bipedal method of walking, which has ensued as the result of the utilisation of the fore-limb for purposes of flight only.

It is thus possible to construct a diagram of the generalised limb, or limb from which the present wing and leg have been derived. The fore and hind limbs are practically identical in the generalised form. (Fig. 2a, March issue.) Each consists of a proximal bone (humerus in fore-limb, femur in hind-limb), to the distal end of which are articulated two bones (radius and ulna, or fibula and tibia). The hand or the foot is separated from the fore-limb by three rows of small cubical bones, which form the wrist or the ankle. In the case of the fore-limb, they are known as *carpals*, in the case of the hind-limb as *tarsals*. In the proximal row are three bones, one close to the radius or fibula (radiale or fibulare), one close to the ulna or tibia (ulnare or tibiale), and the third between the former two (intermedium). The second row contains two bones (the centrals), and the third five, one at the base of each digit. Following on these five carpals or tarsals are five *metacarpals* or *metatarsals*, which form the bones of the palm of the hand or sole of the foot. The five digits are free, and contain from two to five phalanges or joints.

Returning to the limbs of the turkey, the arm and forearm agree with the generalised form above. Of the first row of carpals, only the ulnare and radiale remain independent, the intermedium having apparently fused with one of these. The second and third rows have fused with the fused metacarpals to form the carpo-metacarpus (Fig. 2, inc.). Of the digits, the thumb and next three digits are present in the embryo, but the last soon disappears, and in the adult only three digits remain, the first and third reduced to one phalange each, the second to two phalanges.

Fig. 2b shows the skeleton of the wing of the nestling before the carpals and meta-

carpals have fused to form the carpo-metacarpus.

In the leg, the tibia and fibula fuse early, with the result that the turkey cannot twist its leg. The tibiale and fibulare, though distinct in the nestling (Fig. 2c), become fused with the tibia in the adult, to form the *tibio-tarsus* (tib. ts.). Four digits are formed. The metatarsals of the second, third, and fourth digits lie parallel with one another in the nestling and fuse with the remaining tarsals to form the *tarso-metatarsus* (ts. mts.) of the adult. The metatarsal of the first digit never reaches the ankle, but lies near the distal end of the second metatarsal in the nestling and remains free. In the adult it has rotated backwards.

ALIMENTARY CANAL.

The digestive system consists of a tube, continuous from mouth to anus, and known as the alimentary canal. Its function is to act upon the solid, hard food which the animal eats, and by a series of complex processes to convert it into a soluble form, so that it can finally be incorporated into the blood stream and pass to all parts of the body. A considerable proportion of the food is incapable of being thus used. This waste matter is discharged through the cloaca. Along the course of the canal are glands or glandular areas (on the inner lining of the canal) whose secretions bring about a chemical change in the food, and so help to render it more soluble.

The total length of the canal is about 9ft., the abdominal portion (about 7ft.) being coiled. The coils are connected by a vascular membrane, the mesentery.

The *mouth* is concerned with the prehension of the food. Birds never possess teeth, but in their place there are horny jaws forming the so-called beak. The tongue is hard and pointed and has a serrated edge posteriorly (Fig. 3t). Similar serrations occur on the roof of the mouth, or hard palate. Lying just within the upper jaw on each side is a lobulated salivary gland (sal. gl.). It pours a viscid fluid on the food as it enters the mouth. This fluid contains a ferment, ptyalin, whose function is to act on starch, converting it into soluble sugar. At the

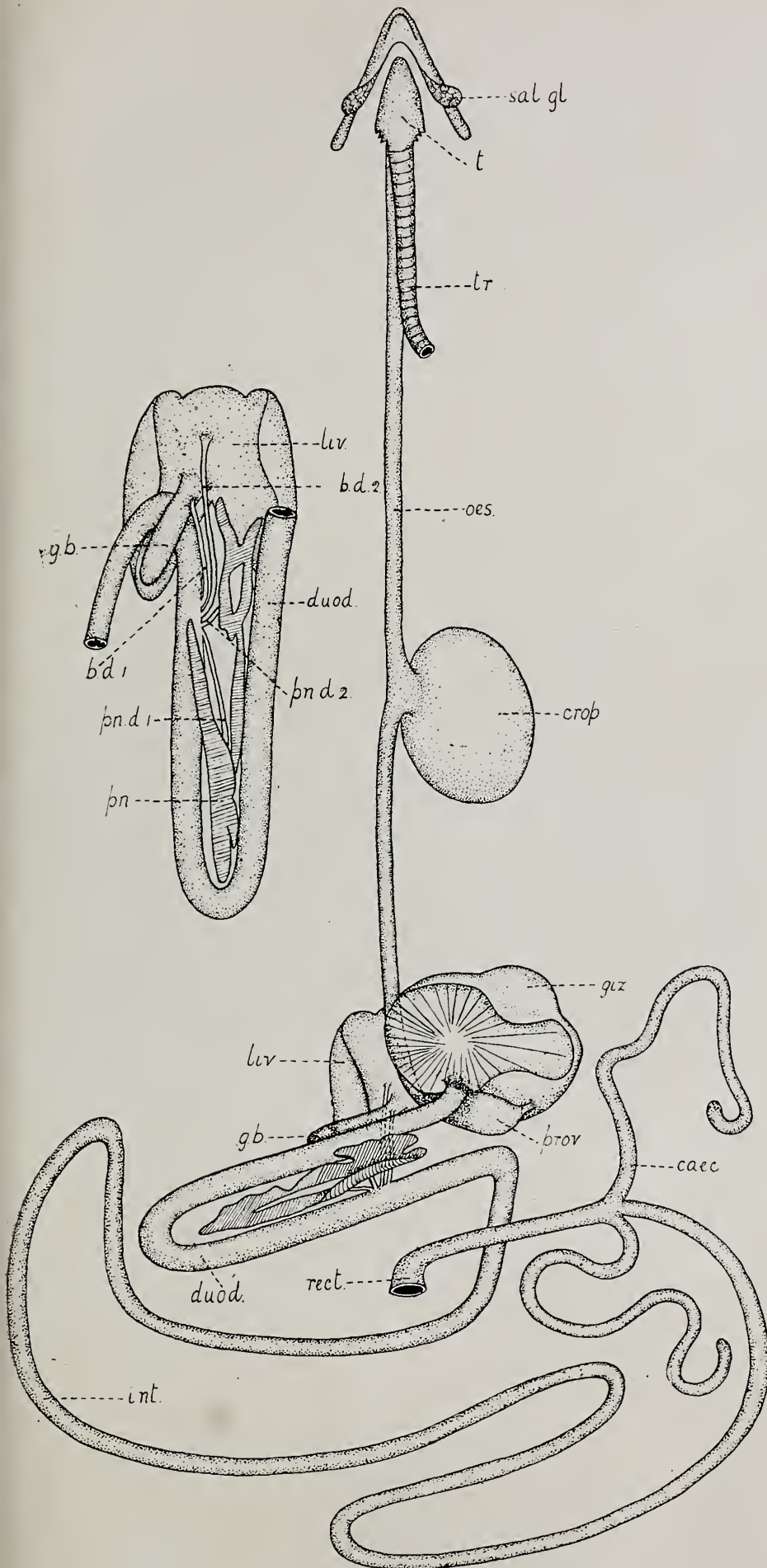


Fig. 3.—ALIMENTARY CANAL (FEMALE). (See Notes on Page 294.)

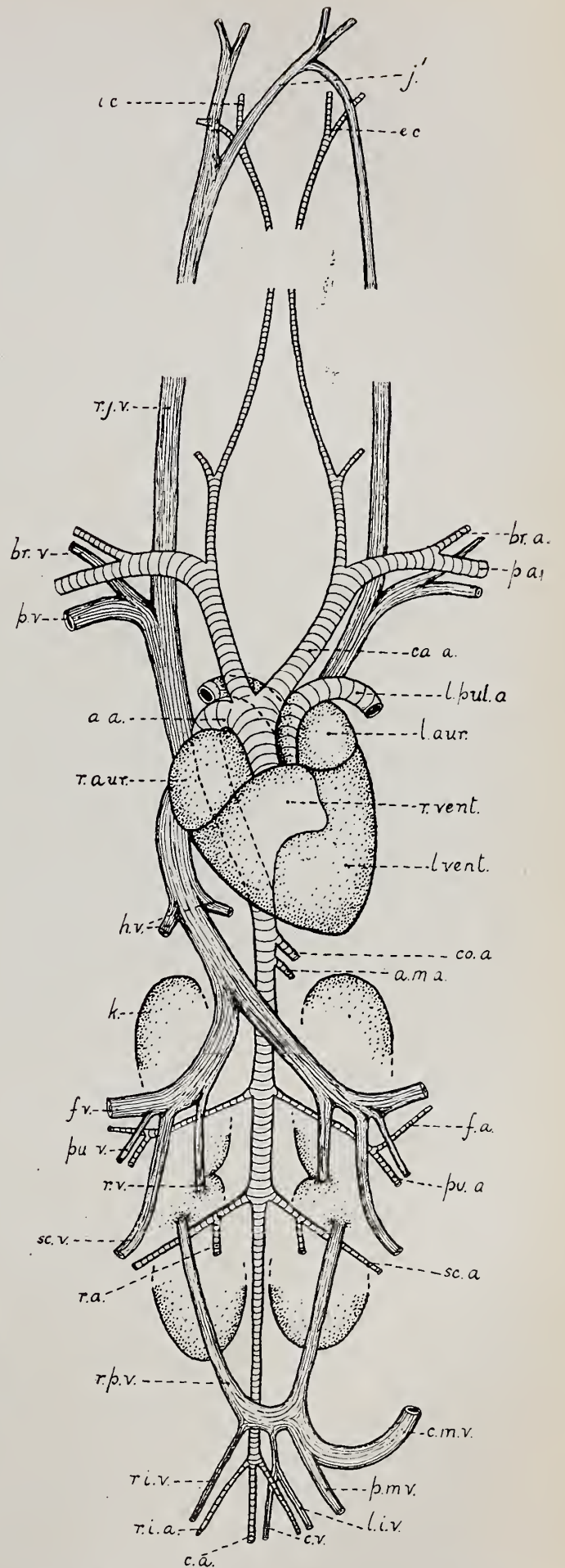


Fig. 4.—BLOOD VASCULAR SYSTEM FROM VENTRAL ASPECT. (See Notes on Page 294.)

back of the mouth are two openings, a large opening leading to the gullet and a slit-like aperture leading to the windpipe.

The food passes down the gullet, whose walls are glandular and possess longitudinal folds, into the first dilatation along the course of the canal, the *crop*. The crop is thin-walled and stores the food until the masticating portion of the canal is ready to receive it. It has a capacity of about a pint in the male bird, and less than half this in the female.

The food passes in small quantities at a time into a small, thick-walled dilatation, the *proventriculus* or stomach proper (*prov.*). Its walls are characterised by longitudinal folds similar to those occurring in the gullet, and also by a band of glandular papillæ, about the size of pins' heads. These glands secrete the gastric juice, an acid fluid containing a ferment pepsin, which assists in digesting the proteid (nitrogenous) part of the food.

The *gizzard* (*giz.*), into which the stomach opens, is the crushing organ of the bird. It is lined by a thick layer of cuticularised tissue and has very muscular walls. Laterally, there are globular thickenings of muscle about an inch and a half thick. The animal swallows small stones: these are retained in the gizzard, and the grinding action brought about by the expansion and contraction of the muscles causes the hard grains on which it feeds to be reduced to a finely-divided state.

The pulverised food next passes into the U-shaped *duodenum*. This is the first part of the intestine, or absorbent portion of the canal. The space between the limbs of the U is occupied by an irregularly-shaped gland, the *pancreas*, whose secretion, the pancreatic juice, enters the further limb by two thick-walled ducts. (Fig. 3a, pnd. 1, 2). This digestive juice contains three ferments, one of which breaks up or emulsifies the fatty globules, a second converts any remaining starch into sugar, thus carrying on the work of the saliva, while the third and most important has an action similar to that of the gastric juice—viz., it converts insoluble proteid matter into soluble peptones. Close to the entrance of the pancreatic ducts, two ducts open, coming from the region of the liver. The *liver* (*liv.*) is a large, bi-lobed organ, very rich in blood-vessels, and one of whose

functions is to extract certain definite substances from the blood. Blood is brought to it from all parts of the gut by a large hepatic portal vein (see Circulation), which splits up into innumerable branches, thus bringing all parts of the liver into connection with the blood-stream. The cells of the liver abstract large quantities of glycogen and also certain waste matters. The blood is collected again into the two large hepatic veins, and passes into the postcaval vein (see Circulation). The glycogen is food material, and is stored in the liver until required by the body, when it is again passed into the blood-stream. Waste matter, on the other hand, is transported by fine ducts to a finger-shaped *gall-bladder* (*g. b.*) lying between the lobes of the liver. The waste matter, or bile, is a dark green, bitter, alkaline fluid, and is conveyed to the duodenum by the ducts above mentioned. Only one of them comes from the gall-bladder; the other comes from the substance of the liver itself. The presence of a gall-bladder is very inconstant among birds—*e.g.*, it is absent in the pigeon, present in the fowl and turkey. The bile, being alkaline, neutralises the gastric juice, and so brings into play the pancreatic ferments, which act in alkaline solution.

The duodenum passes insensibly into the long, coiled *intestine* (*int.*), which is about 7ft. in length. It is here that absorption goes on, and for this reason the walls are highly vascular. The interior presents a velvety appearance, owing to an abundance of finger-like projections on its walls—the *villi*. Each villus contains vessels of two kinds, blood-vessels and lacteals. The food is now in a more or less liquid condition, and much of it passes through the thin walls of the villi to be absorbed by blood capillaries or lacteals. A selective absorption appears to take place, for the blood-vessels carry off the sugar and proteids, while the lacteals (*Lat.*, lacteus, milky) absorb the fat. These lacteals belong to a system known as the *lymphatic system*. The lymphatics collect the blood plasma which exudes from the thin walls of the capillaries, produce white blood corpuscles (see Circulation), and carry away the fatty part of the food from the intestine. The vessels unite to form the thoracic duct, which opens into the precaval vein. By means of

ANATOMY OF THE TURKEY NOTES.—See Page 293.

Fig. 3.—The intestine is dissected away from the mesentery and uncoiled, the gizzard and duodenal loop are displaced to expose as much as possible of the course of the canal.

Fig. 3a.—Duodenal loop to show bile and pancreatic ducts. Loop is seen from the other side from that in Fig 3.—*bd. 1, bd. 2*, bile ducts; *cæc*, cæcum; *crop*, crop; *duod.*, duodenum; *g. b.*, gall bladder; *giz.*, gizzard; *int.*, intestine; *liv.*, liver; *oes.*, gullet; *pu.*, pancreas; *pnd. 1, pnd. 2*, pancreatic ducts; *prov.*, proventriculus; *rect.*, rectum; *sal. gl.*, salivary gland; *t.*, tongue; *tr.*, windpipe.

Fig. 4.—Arteries shaded transversely, veins longitudinally: only the anterior and posterior portions of the vessels of the neck are shown—*a.a.*, aortic arch; *a.m.a.*, anterior mesenteric artery; *br.a.*, brachial artery; *br.v.*, brachial vein; *c.a.*, caudal artery; *ca.a.*, carotid artery; *c.m.v.*, coccygeo. mesenteric vein; *co.a.*, coeliac artery; *c.v.*, caudal vein; *f.a.*, femoral artery; *f.v.*, femoral vein; *h.v.*, hepatic vein; *j.*, jugular anastomosis; *k.*, kidney; *l.aur.*, left auricle; *l.i.v.*, left iliac vein; *l.tul.a.*, left pulmonary artery; *l.vent.*, left ventricle; *p.a.*, pectoral artery; *p.v.*, pectoral vein; *p.m.v.*, posterior mesenteric vein; *pu.v.*, pubic vein; *pu.a.*, pubic artery; *r.aur.*, right auricle; *r.a.*, renal artery; *r.i.a.*, right iliac artery; *r.i.v.*, right iliac vein; *r.j.v.*, right jugular vein; *r.p.v.*, renal portal vein; *r.v.*, renal vein; *r.vent.*, right ventricle; *pc.a.*, pe'atic artery; *pc.v.*, pe'atic vein

blood-vessels and lymphatics, the digested food is conveyed to all parts of the body, to be used up in respiration, muscular activity, and other vital processes of the organism.

Shortly before the intestine ends in the cloaca, a pair of blind tubes, about a foot long, and known as *cæca* (cæc.) occur. They are always much larger in herbivorous than in flesh-eating birds, and may even be absent altogether. They serve to increase the ab-

sorptive surface. That portion of the canal between the *cæca* and cloaca is straight and non-glandular. It is known as the *rectum* (rect.). It conveys indigestible waste matter to the exterior.

The cloaca receives the excretions of the rectum and kidneys, and the products of the reproductive organs, and is divided into three parts.

(To be concluded.)

THE AMERICAN STANDARD OF PERFECTION, 1910.

By WILLIAM W. BROOMHEAD.

IT is part of the constitution of the American Poultry Association, a body holding a similar position in Fancy circles to the Poultry Club of the British Isles, that "a general revision of the American Standard of Perfection shall take place once in five years and not oftener"; and the present edition gives a complete standard description of all recognised varieties of poultry as revised by the association at its annual meetings, held during 1909 and last year. As a book of reference for the amateur as well as for the professional poultry fancier the work is invaluable, not only because it is a standard of perfection, but on account of the excellent notes on the history—and in some cases the qualities—of the numerous breeds and varieties with which it deals, and the several illustrations of ideal specimens it contains—these latter being of great service to the young beginner and simplifying to the utmost degree the wording of the text. To state my opinion of the work in few words, I may say that it is the very best book of its kind that has ever been published in any part of the world, and one that is a great credit to the association.

It may be interesting to recount that the first edition of the A.P.A. standard was issued to the public in February, 1874, while the first illustrated standard was published in 1905. The blocks in this latter edition were made from carefully-prepared pen-and-ink sketches executed by Sewell, Graham, Burgess, and Schilling, while those in the present (1910) issue are on the half-tone process by the foregoing artists and Harry Smith, some of the sketches, apparently, being the result of improved photographs. With this part of the work little fault can be found, but if I may be allowed to criticise it, I think that in places the illustrations are somewhat out of proportion,

and particularly is this noticeable in the heads of some of the Wyandotte females and in the Dorkings. Then, too, a much lower carriage of tail—in my opinion a distinct improvement—is shown in the sketches of males of the Mediterranean breeds, while there is a decided difference in what English fanciers term the general "type" of the Hamburgs, the ones depicted being too coarse boned and short limbed for our fancy. Much less mottling is shown on the Houdans, which is as it should be. The Black-Red Game hen's limbs are not straight enough, while in the whole of the illustrations of Game hens the tail is too short and thick at the base. The Dominique female's neck is too long, and her legs too short, possibly to show that she is not a Rose-combed Rock, although when the illustrations of the males of the Dominique and Barred Plymouth Rock are compared there is very little, if any, difference between them as regards general characteristics. And, lastly, the Rose-comb Bantam's cock's tail is too fine and pointed at the ends of the sickle feathers. However, there are over fifty breeds and varieties depicted, each being represented by a plate of a male and one of a female; and despite the minor points regarding them to which I have drawn attention, they act as excellent guides to those who are beginners in the Fancy.

The new plates, published for the first time, are those for Columbian, Partridge, and Silver Pencilled Plymouth Rocks (practically single combed sports of the Wyandottes of those varieties), Buckeyes (to all intents and purposes Pea-combed Rhode Island Reds, but not pleasing birds to look on, if the illustrations are ideal), Rose-combed White Leghorns, Black-Red Game, White-Laced Red Cornish (known in England some years since as Jubilee

Indian Game, a new variety that never caught on with fanciers on this side of the Atlantic), and White Chinese geese. The glossary of technical terms is again well explained by illustrations, but its value—indeed, the value of the whole work—is greatly enhanced by the inclusion of five coloured plates, which give the fancier an excellent idea of various tones of white, bay, black, blue, red, brown, yellow, and buff, the golden buff being a perfect colour, though a shade or so red in the shaft.

In the list of general disqualifications there are a few additions. One is, "Legs and toes of colour foreign to breed." Another, "Web feet in all breeds of chickens." Others, "Birds unworthy of a score," weights below those specified in the standards, and over-weight in Bantams; and absence of crests, beards, knobs, and dewlaps in certain varieties and breeds. Turning to "cutting for defects," there are two or three slight alterations, such as "missing feather," &c., 1 to 3, in the previous edition $1\frac{1}{2}$; "twisted wings," &c., 1 to 2, as against 1; "earlobes of Wyandottes," &c., $\frac{1}{2}$ to 2 instead of 1 to 2. I remark, too, the use of the expression "positive enamel white" in place of "positive white" in lobes, and "reddish bay" instead of "bright red or bay" eye colour. Further, touching the various weights of the breeds there are important alterations. For instance, the Plymouth Rock pullet has been lightened by half a pound, as has the Langshan cock, although the weights of the hen and the pullet of the latter breed are increased by half a pound. Dominiques are reduced by a pound on each section, while in Houdans and Cornish (cockerel, hen, and pullet), half a pound more is demanded or suggested. White Holland turkeys must be two pounds heavier in each section, and Pekin ducks a pound (young and old alike), while in Toulouse the increase in weight is five pounds in the adult gander, two each in the young gander and adult geese, and one pound in the young goose.

Of the colours and markings there are some points worthy of mention. Thus in Silver Wyandottes the present demand is for the web of each feather on the female's back to be "white, laced with a narrow, lustrous greenish-black, sharply defined lacing, to conform to edge of feather"; in the 1905 edition this point is given as "black, with large, oval-shaped white centres free from black or brown; lacing, lustrous black, sharply defined and free from white edging"—certain proof that the fine stamp of lacing is preferable to the coarse, the former being the ideal for years of English breeders of the variety. In Partridges "mahogany brown" is mentioned in connection with the hen in place of "mahogany-red or reddish-brown." A complete description is

given for the Gold (instead of "the same as Silver, &c.") and for the Columbian (in place of "same as Light Brahmas, &c."), while the colour of the Black's legs is still black, shading into yellow or willow, with the bottoms of the feet yellow! In Rhode Island Reds the under-colour is given as red instead of red or salmon. "Mahogany brown" takes the place of "mahogany red" in the Partridge Cochin hen, and "rich golden bay" for "deep reddish-bay" in the Gold Spangled Hamburgh. The marking of the Houdan is definitely stated as one in five feathers tipped with white. A complete description of the Ancona is given, including shape and colour, and here again the markings are stated as about one in five tipped with white. The colour and markings of the Dominique are fully explained and not merely mentioned as "same as Barred Plymouth Rocks"; and in the present edition the colours differ in no small degree.

There are other alterations that attract attention, and many could be mentioned in connection with the "scale of points" for the various classes. Space, however, prevents reference to them in detail. The chief, perhaps, is that symmetry now counts for little, in most breeds four per cent. instead of eight. The points allowed for the head include the beak and the eyes, not formerly mentioned; and we find such a peculiarity as "shape" of eyes being allowed two per cent. in many of the standards! As regards the dubbing of Game Fowls, it is stated that "cockerels shown after November 1 should be dubbed," while among the disqualifications for "Games" is "cocks not dubbed." Orpington fanciers may like to know that in America "the Orpingtons have the distinction of being the only breed recognised where all varieties have solid colour," the varieties mentioned being Buff, Black, and White, single combs only; so there is no hope yet for Rosecombs of these three colours, or of Jubilee, Spangled, Cuckoo, Barred, Blue, Red, or any other colour being standardised in the land of the Stars and Stripes! Other alterations are that the "Cornish Indian Games," "Cornish Indians," or "Cornish Games," are now termed "Cornish Fowls," and the varieties are "Dark" (our one and only Indian Game), White, and White-Laced Red. Silver Duck-wing Leghorns have been reduced to Silver, and the Dutch section is now known as "Hamburghs." In turkeys there is a standard for the Bourbon Red (bred up, we are told, from the wild Yellow Turkey of Kentucky), while in the Bronze there is a list of defects that "should be cut severely." However, as a standard of perfection the work is invaluable to the poultry fancier, not only of America, but of England and the whole of her Colonies.

POULTRY THROUGH THE MICROSCOPE.

VII.—A CONSIDERATION OF FOOD.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.

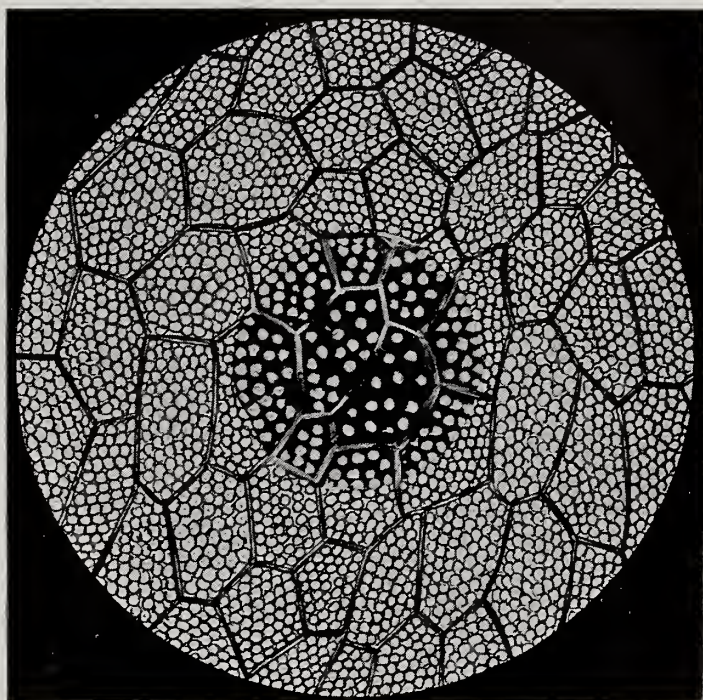
FIVE elements, broadly speaking, must enter into the composition of poultry foods. These are nitrogenous, for the development of flesh and tissue; carbonaceous, for the creation of vital processes and eggs; salts and other minerals, for the formation of blood, bone, feathers, and shell; hydrogen and oxygen (gases), for the production of water and chemical reactions. Nitrogenous provender is derived from the proteids, such as lean meat, albumin, bone, greenstuffs, and so on. Carbonaceous matters (carbohydrates) include the starches of grain, fats, oils, and sweet goods. We all know that sugars (into which starch becomes converted), fats, and oils will, when burnt or consumed, yield a considerable amount of heat, while lean meat, vegetables, albumin, and other proteids simply shrivel when so dealt with. Carbon is the basis of flesh, held intact, and concealed by the presence of protoplasm, and built up wonderfully by the agency of all the various factors eaten. Table-salt, lime, and various minerals are extracted from the blood after solution therein from the food, and are added to comprise the inedible portions of birds—the blood, bones, feathers, and shells.

Certain proteids and carbonaceous matters have a closer relationship than others. Indeed, no hard-and-fast lines of division can be laid down. Just as in the two connected halves of a plank there are quite opposite extremes, and portions which approach each other as the middle is reached; so these two classes of food run into each other in various ways. But lean meat and albumin may be regarded as one end of the plank, and starch and sugar as the other end.

As a rule, one part of nitrogenous substance to five parts of carbonaceous material is the right proportion, or nutritive ratio, for adult birds at ordinary seasons. Young stock needs one part nitrogenous and three parts carbonaceous. In winter the carbonaceous section must be increased to provide extra warmth.

Oats have been found to be one of the best all-round poultry foods. They are excellent for fattening. If the fat percentage of oats was less they would provide an absolutely perfect food. They should always have their husky tails, or awns, clipped off. In instances where failure to benefit from oats has been

recorded, or where birds have refused to liberally eat them, it has often been discovered that the grain was coarse and uninviting and possessed too much husk. Sussex ground oats are far and away the best of the kind. The fibres of common oats are unsuitable for young birds, although strong adults can manage to



No. 1 —A lengthways slice of Indian corn grain (maize) magnified in a pinhole, showing the packed, yet separate, starch grains. The centre is torn, and has its grains scattered.

digest them. Of course, other meal substances should be added to oats, but they can be regarded as the staple item.

A few months ago Mr. J. N. Leigh secured 4,814 eggs in a period of four winter months, during a laying competition at Iden, near Rye, and these were yielded by almost wholly oat-fed birds. Sussex ground oats were used at every meal, with a little meat.

A valuable food for egg-layers is composed of 1lb. of liver (or meat) boiled to pieces in a gallon of water, to which a pint of soaked beans is added, along with a teaspoonful of baking soda and a sprinkling of salt. When it is cooked, thicken into dough with equal parts of bran, corn-meal, and middlings. Stir into this half a pint of ground bones, at the rate of one teaspoonful for every

hen. The phosphorus of the bones will increase the amount of lecithine in the yolk; while the lime ingredient will go towards the formation of shell.

Indian corn (*i.e.*, maize) is the mainstay of the cottager who does not study the subject



Fig. 2.—A magnified pinhole view of some mildews covering a cabbage a few days old. Five microscopical plants are represented; and these are dangerous to poultry. The round portions from which they spring are the cells of the cabbage stalks, and are like a lot of filled bladders. Each of these has more than one scientific name.

properly. But it is far too heating to be given liberally, and is capable of producing obnoxious yellow internal fat. This food should be restricted to night-time, and to the winter months, when the warmth produced by the digestion of the starch is welcome. Thin birds should be served with more maize than heavy ones. Barley is also heating, and useful for laying birds.

The gluten in starch is a valuable item. Isolated gluten is a stiff, sticky, pale brown or grey glue, and is the factor responsible for the development of dough when flour is moistened and kneaded. It is thus released from grain.

All grain holds its starch as minute granules of specific shape, according to the plant containing it. (See Fig. 1.) Each granule is a skin of cellulose holding granulose. The body of the kernel or seed consists of myriads of microscopic cells or chambers, and, when cut across, resembles a mesh, because one can see only their edges. In these chambers lie the starch granules. At one part of the grain is the embryo, and under the influence of moisture, warmth, and suitable atmospheric conditions it commences to sprout. The starch granules then swell and burst their exceed-

ingly thin skins and the whole unites to a jelly, or gum (dextrin), which changes to a sugar for the sustenance of the embryo. That is the secret of the grain being vitalising and heat-producing. It contains latent *life*, destined to develop the embryo, while the starch becomes warmth-producing sugar by the action of various glandular solvents.

I do not think that brewer's grains are so valuable as some poultry-keepers believe. Their nutriment has really been extracted from them. However, such a debatable matter must be left alone just now.

That food flavours eggs and flesh should be borne in mind. Birds have been rendered totally unfit for eating by having been fed on discarded fish and other refuse. A fowl is not a manure factory, but a conscious creature, and its emotions—likes and dislikes—affect the quality of its flesh quite considerably. The *fresh* edible scraps from one's own table may be relished and turned to account. Fish guts, rotten clippings of vegetables, and so on, should, however, no more be given to poultry than to children or ourselves. In this connection readers who desire to produce deliciously-flavoured birds are advised to supply chickens and ducklings with plenty of celery seeds. Any milk that is given to fowls should be mixed with their food, and not be served as a drink.

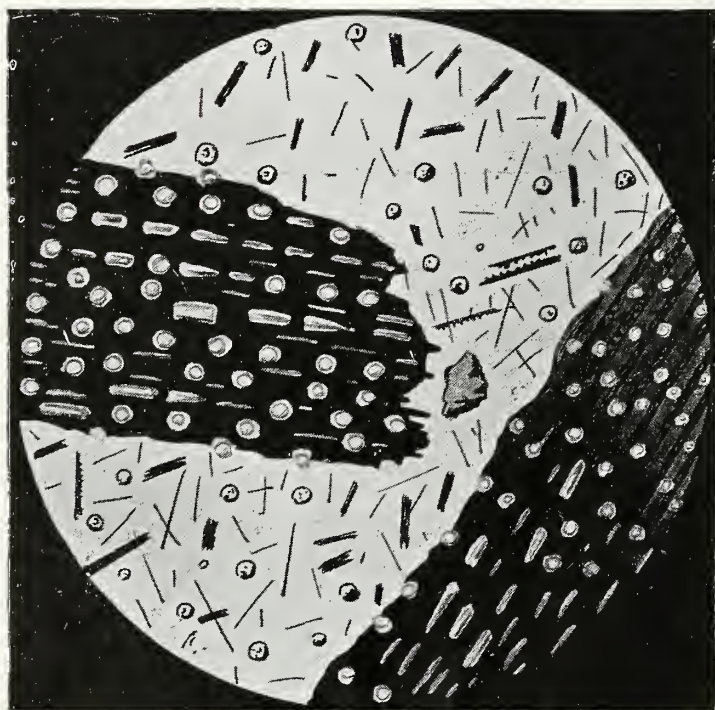


Fig. 3.—Stalks of cereals are crowded with particles of silica (flinty or sandy substance) which provide excellent "grit" for fowls. Upon burning a stalk of wheat to charcoal, and magnifying a scrap of it in a pinhole, round and angular specks of silica are found in holes, &c. Spicules also occur. This scrap is laying in water, to float apart its tiny portions.

Plenty of animal food is needed during the winter months especially, because the birds

cannot procure many grubs and worms. Butcher's meat, such as liver, lights, and so on, chopped fine, boiled, and mixed with sharps and the broth it is cooked in forms a nutritious feed.

Green-bone, not exceeding half an ounce per day, is useful for laying birds, but should not be given to chickens. A cabbage head hung in the scratching-shed will provide welcome food when other greenstuff is scarce. It should always be fresh. To allow leaves to go mouldy is absolutely dangerous. The moulds and mildews are microscopic plants, and for the most part injurious to animal life. They help to produce the ptomaines and kindred poisons, and even if a bird that eats such rubbish does not appear to suffer, there is always the possibility that its flesh may be so contaminated as to make it risky for the consumer. In Fig. 2

are shown some cabbage moulds only a few days old.

A profitable method of feeding for those who can avail themselves of it is to procure the upper two-thirds of cereal stalks, and so on, and pile them in a certain order. A patch of cleared, wholesome, well-limed ground, preferably surrounded by a ditch, should have a thick layer of straw placed over it, and above this a layer of trefoils, such as clover or cabbage leaves, the whole to be covered with a layer of straw. For every 20lb. of greenstuff 1lb. of salt should be sprinkled over the former. If this can be chopped up, after ripening, in a chaff-cutter so much the better.

The value of straw consists in the fact that it contains myriads of points of silica—that is, flinty or sandy substance—which is very acceptable as grit, in which tiny glassy discs and spicules appear. (See Fig. 3.)

A POULTRY - KEEPER'S QUALIFICATIONS.

By GEORGE SCOTT.

BEFORE embarking in any trade or profession it is usual to consider whether one is qualified for the work, and in the majority of cases a long apprenticeship is considered essential. There is, however, one remarkable—I almost said notorious—exception to this rule: the business of poultry-keeping. Were you to ask the incipient aviculturist what qualifications he possessed, he would probably think you had taken leave of your senses. There is a widespread idea, which neither education, experience, nor failure seems able to remove, that the successful management of poultry is mere child's play, and can be undertaken by the nincompoop, the ignoramus, or the man whose life has been a series of failures. Such men are constantly entering the ranks of the ever-swelling army of poultry-keepers, and when their dreams of a life of ease and plenty are rudely shattered they take up that popular refrain of the unsuccessful, "Poultry-keeping does not pay!" The erroneousness of this conclusion is demonstrated by the many successful farms now in existence where poultry-keeping is exclusively undertaken; but it is only where an intimate knowledge of poultry management in its every detail is found in combination with industry and business capacity of no mean order that success is attained.

The old saying that "a little knowledge is a dangerous thing" is of universal application, but in no case is its truth more exemplified

than in its application to poultry. "A little knowledge" obtained from keeping half a dozen fowls in a back-yard, or from spending one's midsummer holiday on a poultry-farm, is all that most poultry-keeping aspirants possess, and armed with the crumbs of knowledge they have picked up they are optimistic enough to think they can enter the avicultural arena with an assured future. There is a vast difference between making a small annual profit from a few fowls kept on hobbyist lines and poultry-keeping as a means of obtaining a livelihood, and in the latter case more than a grasp of the fundamental principles underlying profitable poultry culture is necessary. The business is essentially a practical one, and before anyone contemplates the management of a poultry-farm he must have a thorough practical knowledge of every detail pertaining to poultry culture, which can only be obtained from that bitterest of teachers—experience. This must be supplemented by theoretical knowledge gained by taking advantage of the experiences and researches of others as described in the various publications devoted to poultry.

Perhaps the most essential qualification requisite in a poultry-keeper is vital interest in his work. Without this all other qualifications are useless. The man who takes up poultry-keeping merely as he would take up any other business, looking at the fowls solely as so many units in a money-making concern, will never

make a success of the undertaking. Something more than this is necessary, and the aspirant to fame and fortune in the poultry world must take a keen interest in the birds themselves apart from any question of £ s. d. He must have all the hobbyist's love for the work, otherwise the constant personal attention involved will become mere drudgery. It is the necessity for this personal attention at all times which makes poultry-keeping so different from many trades or professions. Carelessness, neglect, or inattention to any of the numerous details upon which success in this business is so largely dependent may cause much loss and make all the difference between success and failure. Moreover, this interest is also necessary on the part of anyone else who may have to come in contact with the fowls, and for this reason it is difficult to obtain reliable help. One cannot expect a hired man to show the same painstaking interest in the birds as does their owner, and there is no business in which it is so easy for an employee to shirk his duties unless there is adequate supervision. The old proverb that if you would have anything done well, you must do it yourself applies with great force to poultry-keeping.

Amongst the many misconceptions which an unobservant public has gathered respecting the management of poultry is the idea that there is very little labour attached to it, and that a poultry-keeper's life is a veritable bed of roses. The townsman will tell you with a sigh suggestive of ineffable longing that the dream of his life is to live in the country and devote himself to the pleasurable and profitable pursuit of poultry-farming. If continual work from sunrise to sunset every day in the week and every week in the year constitutes his idea of ease and comfort, then of a surety in poultry-keeping he has an admirable solution of the problem of how to secure happiness! The multitudinous duties of the poultry-breeder will keep him constantly employed, and although the work is of a health-promoting nature, and pleasurable enough at certain times of the year, the long hours and continuity of the labour make poultry-keeping a most unsuitable vocation for anyone with a distaste for work. An American writer has said with much truth "when the pleasure of life becomes the business of life, it ceases to be a pleasure," and this fact should be considered by every backyard fancier who thinks of taking up poultry-keeping as a means of obtaining a livelihood.

A poultry-keeper must be a handy man and be able to handle the tools pertaining to various trades with a fair amount of skill, but above all must he be acquainted with the rudiments of carpentry. The wear and tear of the plant necessitates almost continuous re-

pairing, and if a skilled workman has to be called in every time anything goes wrong the expense will make a big hole in the profits.

Probably there is no business which provides such a plentiful crop of disappointments as poultry-keeping. There is a distinct element of luck in breeding exhibition birds, and this uncertainty renders the business somewhat speculative in character, and adds a spice of excitement to what would otherwise be a laborious dry-as-dust undertaking. Anyone who takes up poultry-keeping must be prepared for many reverses before fortune smiles on his efforts, and he need not expect his star to be in the ascendant without years of hard work. Obstacles must be overcome, and only resolute determination and indomitable perseverance will enable one to reach the desired goal. Many persons, imbued with the false idea that poultry-keeping is a stepping-stone to fame and fortune, after an experience brief but wholly sufficient to dispel their dreams, give up the business in despair when a more prolonged trial might have been sufficient to place it on a profitable basis. Returns in the poultry business are necessarily slow, and some time must elapse before the profits begin to come in. It is during this period of waiting that so many abandon the enterprise in disgust. Those who have the determination to continue and the foresight to look into the future generally succeed; and all would-be poultry-farmers should have engraven on their minds that maxim of Napoleon's: "Impossible is a word only to be found in the dictionaries of fools."

The ability to draw up attractive advertisements is a very valuable qualification for the poultry-keeper to possess. Advertisement writing nowadays has been brought to a fine art, and poultry-keepers would do well to give more attention to their announcements, for it must be confessed that, with a few noteworthy exceptions, one does not find much talent displayed in the wording and designing of the advertisements in the poultry journals. In the hands of the man who understands it, advertising is a most potent aid to success, and money wisely spent in this way proves a profitable investment, but in no department of business is it so easy to throw money away. To give the best results advertising must be continuous; it is only under exceptional circumstances that spasmodic advertising pays.

Owing to the fact that a poultry-keeper seldom comes into personal contact with his customers, they must form their impressions respecting his position and abilities from his correspondence, and for this reason the suc-

cessful breeder must have mastered the art of letter-writing. Illegible writing, orthographical errors and poor notepaper convey a bad impression and may cause many an order to be lost. One needs to be a rapid penman, for the correspondence of the poultry-keeper, and especially of one who specialises in the sale of sittings of eggs and day-old chicks, is exceedingly heavy, and forms a considerable portion of one's daily work. There are few businesses which, for the amount of turnover, entail such a mass of correspondence. It is the rule rather than the exception for the prospective purchaser of eggs for hatch-

ing to require full details respecting the stock birds, their history and antecedents, before ordering a sitting, and the vendor must answer these questions courteously or lose the order. Many breeders issue a circular or price-list giving particulars of their stock, and this does something to lessen the burden of correspondence.

From the foregoing it is evident that the qualifications requisite in a successful poultry-keeper are many and varied, and the constantly-increasing competition in this, as in every other walk in life, tends to augment the list and render more difficult the road to success.

WHO'S WHO IN THE POULTRY WORLD.

MR. HUBERT WRIGHT.

IN these days, when one hears so much of "commercialism" in connection with the Fancy, it is refreshing to know that there still remain some fanciers who, while exhibiting their stock on a fairly large scale, keep the birds solely as a hobby. Such a one is Mr. Hubert Wright, of Mayfield, a solicitor by profession, and in partnership with his brother as Wright and Wright, of Keighley. Although Mr. Wright has kept poultry and pigeons all his life, it was not until 1905 that he went in seriously for show birds; and as a Wyandotte specialist he will be best known to readers of the RECORD.

Mr. Hubert Wright began his Fancy career—as many others have done—by purchasing some of the best specimens available at the time. Nevertheless it was not on the wins of these bought birds that he built up his reputation as a Wyandotte fancier; and it soon became known that those bred at Mayfield had to be reckoned with in the keenest competition. Thus in 1906 Mr. Wright produced two Dairy winners and three Palace winners, in addition to many others, and in the following year with four varieties of the breed he staged Partridges, which won well at Liverpool, Ayr, the "Royal," Birkenhead, Tunbridge Wells, and Lancaster, &c., Whites which secured some of the best prizes at the Leicester County, the Royal Lancashire, Keighley, and other important events, Silver-Pencilled winners at Liverpool, Hayward's Heath, the Dairy, Lancaster, &c., and Columbians which came out on top at most of the important shows of the season. Since then, however, Partridge Wyandottes have been made a special study, and his pullet strain is very well known throughout the Fancy.

He is no believer in coddling his poultry, since his place stands on a hillside fully exposed to the east winds, and even on a comparatively mild day the cold north-easter can be felt.

In addition to fowls, Mr. Wright has made a name with pigeons, and among the breeds he keeps are Antwerps, English Owls, and Show Homers, while at one time he was a successful breeder and exhibitor of Bulldogs.

Mr. Hubert Wright is on the Yorkshire branch committee of the Poultry Club, a committeeman

and club judge of the Partridge Wyandotte Club, a member of the Silver-Pencilled Wyandotte Club, president and club judge of the Columbian Wyandotte Club, and on the committee of the United Wyandotte Club. In 1908 he was president of the Partridge Wyandotte Club, and on its formation was secretary of the Yorkshire branch of the



MR. HUBERT WRIGHT.

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Poultry Club, but retired after the first year and joined the committee. He is also hon. secretary and treasurer of the Antwerp Club.

Mr. H. DE COURCY.

IT speaks volumes for the extent of and interest in the poultry industry that there has grown up a crop of prolific writers for the Press who have found newspaper editors of all grades open to receive their contributions. Among these Mr. H. De Courcy occupies a leading place, for his name appended to articles is familiar on both sides the Atlantic. In addition to which he has since 1896 contributed the weekly poultry article to the *Irish Homestead*, which as the mouthpiece of the Irish Agricultural Organisation Society has had wide influence in the Green Isle. His writings have been essentially practical, as might be expected from one specially concerned with poultry-breeding in Ireland. He is a practical farmer, and now holds 434 acres of arable land in County Kilkenny.

Still on the right side of forty, Mr. De Courcy has for the last fifteen years been actively engaged in promotion of Irish poultry-breeding. Fol-



MR. H. DE COURCY.

lowing a course of study at Reading in 1897, where he obtained the certificate, he was engaged for several years as lecturer on poultry for the *Irish Homestead*, the Irish Agricultural Organisation Society, and the Department of Agriculture and Technical Instruction for Ireland, until he took up farming in 1904.

THE TRANSYLVANIAN NAKED NECK FOWL

(See Frontispiece.)

SOUTH-EASTERN EUROPE is responsible for two breeds of poultry with peculiarities very distinctive. These are what we call the Danubian Goose, with their long, abundant posterior feathers, and the Transylvanian Naked Neck fowl, of which latter a fine illustration is herewith given. In neither case has any explanation ever been forthcoming to account for these divergencies from the ordinary types. So far as the Naked Neck is concerned, the only suggestion that we have heard is that when roosting or on the nest, the neck is drawn on to the body so that the absence of feathers enables the head to be almost buried. Why that should be an advantage is not apparent. The same peculiarity as to bare neck is met with in a few wild birds such as the vulture, and with these there appears to be an equal absence of reason. That there is some object is certain. Nature does not develop and maintain variations without some good purpose. We may hope that in process of time knowledge may be so increased as to enable a judgment to be formed.

The name is derived from the naked neck on the one hand and a portion of Eastern Hungary on the other. That this breed is by no means restricted to Transylvania is evident, though possibly that country may be the base. Travellers record meeting with it as far West as Austria, in Hungary, Servia, Bulgaria, Roumania, and Bessarabia, which last-named country is now part of Southern Russia. Mr. Edward Brown reported seeing many of these birds during his tour in the Balkans a few years ago. It is further stated that Naked Neck fowls are to be met with in Madagascar, but as to that we have no definite information. Possibly the last-named island may be the place of origin, and specimens have been taken thence to Constantinople and the Black Sea. Or, more probably, the origin, could we trace it, would be found in Central Asia, that mine for new breeds which has never been explored, and the breed was disseminated from there into Europe and by Persia or India to Madagascar. Whatever way the birds arrived, the fact may be accepted that they are distributed over a fairly wide area, and that they are regarded with great favour. In proof of that Mr. Albert E. Wragg, writing in *Poultry* nearly seventeen years ago, stated that by way of experiment he had placed under a hen thirteen shop eggs from Austria, which would probably mean Hungary, from which only one chick was hatched, and that proved to be a Naked Neck.

Such appears to be all the information about the breed. As M. Cornevin, in his well-known work, says, "it is impossible to say if this singular race has originated in the Carpathians and at what period; we only know that they are common there. In a recent journey in Transylvania we have proved that they are not increasing in the country, but are more often pressed back by the ordinary grey fowl." It would be welcome if some of our Eastern European readers could afford more information than we possess.

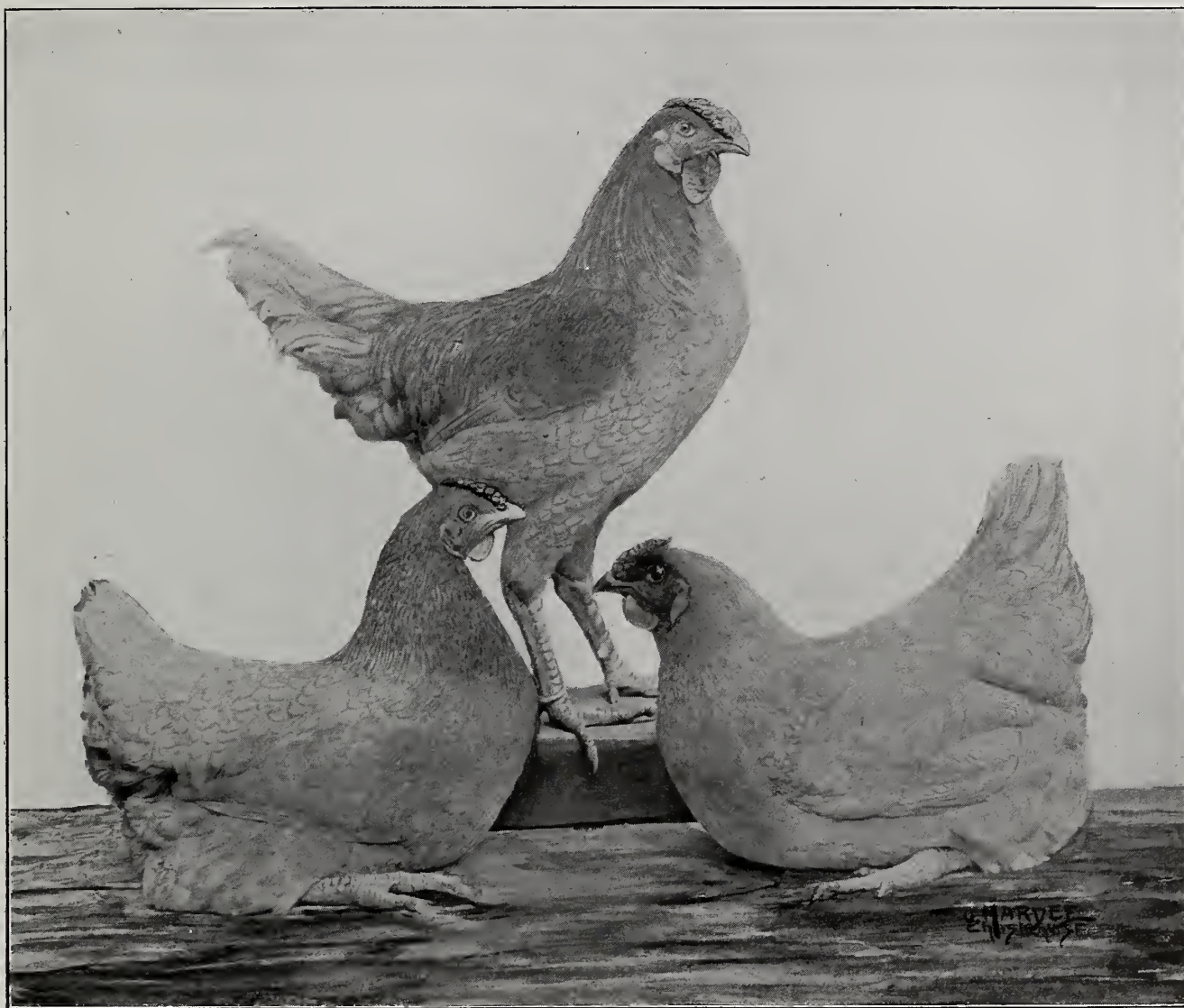
The appearance of birds is peculiar in the extreme. In size they are medium (4lb. to 6lb.), with longish neck and legs, giving a somewhat stilty

look, as the thighs are small. The body is round and well developed, flat and muscular in front, with large, strong wings. The cock's tail is full and carried almost horizontally. The head is neat, and the comb single. It is on the head and neck where the Naked Neck differs from other poultry, for the head and neck for four or more inches down are entirely denuded of feathers, save that there is a full, clear-cut band of soft feathers a little above the shoulders with a bare ring below. The head and flesh thus left uncovered are bright red, and when seen for the first time the effect is very startling, but cannot be regarded as pleasing. As a

THE REARING OF STOCK DUCKLINGS.

By FRED W. PARTON.

A BRANCH of poultry-keeping which is sadly neglected by the general farmer is that of duck-breeding. There are few farms where ducks might not be reared with considerable profit, provided that they received the proper amount of attention. There are specialists in duck-breeding both so far as market and exhibition birds are concerned; there are also those who have extensive



TRIO OF BLUE WYANDOTTES

Bred by and the property of the Bolton Model Poultry Farm.

rule the best specimens are pure white in plumage, so that the contrasts are great. A few coloured plumaged Naked Necks are seen, mainly reddish brown, in which the bare head and neck do not look so prominent.

The peasants of the countries named prefer this breed of all others, for the reason that they are so hardy and vigorous. In fact, it is stated that they never suffer from disease, which may be an exaggeration, and, therefore, we may say "seldom" instead of "never." Their activity is very great, and during the greater part of the year they find all their own food—an important point where prices realised for eggs and chickens are low.

plants and rear by the tens of thousands. It is, however, to none of these that our remarks apply, but rather to the farmer who is able only to keep a limited number.

The rearing of stock ducklings should be conducted on quite different lines from the rearing of those intended for the spring markets. The success of the latter, which is doubtless one of the most profitable of all branches of the poultry industry, depends largely upon the management of the parent stock. The first consideration is the choice of a breed, which is of especial importance when the object is to rear stock ducks, ones that are in their turn to produce ducklings. For early

work there is no variety so valuable as the Aylesbury, since the ducklings are such extraordinarily rapid growers. They are ready for market when about eight weeks old, when they weigh from $4\frac{1}{2}$ lb. to $5\frac{1}{2}$ lb. Other popular breeds are the Pekin and the Rouen. The only value of the Indian Runner is as an egg-producer, and as such it has no rival.

Hatching should commence early in April, but it is a wise plan to mate the birds a good deal earlier than this, so that the first ten or twelve eggs need not be used for sitting, since before this number is produced they cannot be relied upon as fertile. Ducks that were hatched early the previous year should be selected for breeding, and they should be mated to a good sound drake. Both ducks and drakes should be very large, deep, and massive in body, and only those possessing such qualities should be chosen. Three ducks may be run with each drake, and the eggs should be periodically tested as to their fertility, as the individual birds vary considerably, as also does the strain; by observation it will be apparent whether the mating is correct. It may be desirable to increase, or to take from the number of ducks. Ducks are not very persistent sitters, and do not make reliable mothers, consequently hens are employed, and a good big hen, something after the Plymouth Rock type, will cover eight or nine eggs, and brood half as many more ducklings.

It is necessary that breeding stock should have liberty and access to swimming-water. Copulation can take place on land, though in these circumstances the eggs are more liable to be infertile and the ducklings of weak constitution; while ducks, if the supply of eggs is to be kept up, must have good, comfortable sleeping accommodation, the same care need not be bestowed upon their house as is necessary for laying hens. It can be much more simple in construction, and need not be more than two and a half or three feet high. It is well that there should be plenty of fresh air in the house, and for this purpose the two sides and the front may have wire-netting six or seven inches from the top. Concrete makes an excellent floor, and has the advantage of being perfectly dry; this, however, should be thickly bedded with straw, and may be tossed and turned in the same way as litter used for large stock, and, of course, renewed when necessary. On many farms where a few ducks are kept they are allowed to live both night and day with the other fowls. This is a mistake, since the general conditions suitable for one are not the most desirable

for the other; hence the necessity of locating them apart in the daytime and sheltering each in their respective houses at night.

The food for the parent stock may consist of any of the grains used for the general flock of fowls, oats and wheat for preference, with barleymeal and middlings for their soft food, mixed into a very stiff paste. They must also have a fair amount of animal food, the quantity of which must, however, be determined by the conditions. If they have a large range and a good, natural pond, plenty of slugs and other forms of animal food, which is to be found in abundance at this time of the year, will be obtained therefrom.

The hatching arrangements may be conducted on the same lines as for chickens—namely, a good roomy sitting-box, well ventilated, and placed in a sheltered spot, where the hen will not be disturbed. Moisture is necessary for the successful hatching of all birds, but more of it is required for ducks' eggs. A moderately damp place should, therefore, be selected, and should the season be exceptionally dry the eggs should be occasionally sprinkled with tepid water, or water may be poured well down under the nest, as the moistened air will thus rise to the eggs. Young ducklings require very little brooding, and, provided that the coop in which the hen and her charges are placed is sufficiently large to obviate the danger of their being crushed or trampled to death, a dozen or fifteen ducklings are not above her powers to protect. Immediately the ducklings are sufficiently advanced, selection should be made of those intended to be used for laying or breeding stock; the remainder to be fattened for market will be ready towards the finish of the big spring demand, which exists till the end of May, when prices still rule high. Those that have been chosen for breeding stock should be kept apart from those destined for consumption, since the method of feeding each is different. Feeding should be in the direction of building up a large frame, and nothing of a too fattening or forcing nature should be used. They should have as much exercise as conditions will allow; in fact, be allowed to wander anywhere provided that shelter can be obtained when necessary. It is often thought that any place will do for duck-rearing, and it is frequently argued that, being waterfowl, a damp, puddly place is to their natural liking. Whatever they like, this, however, is not the most suitable place, since under these conditions they are very liable to suffer from cramp and other forms of leg trouble.



A VIEW ON A LARGE DUCK PLANT IN THE NORTH OF ENGLAND.

[Copyright.]

EXPORTING FOWLS ABROAD.

THE EXPORT TRADE IN POULTRY.

By EDWARD BROWN, F.L.S.

OBSERVATIONS in many countries have revealed that the high position occupied by the United Kingdom in respect to breeding stock is fully realised, even by those who have entered into competition with us in that direction. When recently in Germany it was acknowledged freely that we have many advantages, climatic and otherwise, over breeders in other countries, and that they must continue to look to us for supply of stock to maintain and improve those which they already possess. Whilst, therefore, it is essential that by "eternal vigilance," and by producing the class of fowls which customers require, the place now occupied shall be maintained, it should be remembered

We are the effect of our conditions. The great skill which characterises the British breeder is in itself a result of his environment rather than any special virtue in himself. Many decry the variable and moist atmospheric influences of this country, failing to realise that these form a mine of wealth, and that they have given us great advantages from which we have realised much benefit in the past, and may do so still more in the future. The growing importance of the poultry industry in all parts of the world means a rapidly-advancing demand for stock which it should be our aim to supply to the fullest extent. Having had the opportunity of realising what are the conditions in many countries, I have come to the conclusion that there is no climate which I should prefer as a matter of choice to that met with in our own land. That may be regarded as due to insular prejudice, but it is the result of a fairly wide and



READY TO GO TO SOUTH AMERICA.

[Copyright.]

that the day has gone by when we can be content to wait for customers to come to us for what they desire. Our competitors, to their praise, be it said, are determined and pushful, and those who cater for and look after the business will reap the rewards. There is a danger lest it is thought that our undoubted advantages of climate and economic conditions, great though they may be, and the facilities afforded by a world-wide commerce, making transport by sea especially more direct and easy from our shores to other countries than from almost any other country, should induce lethargy. Year by year the world is shrinking in that respect, and we must recognise the fact. For instance, at one time the most speedy way of transport from, say, America to Australia was *viâ* England, as, in fact, it still is from the United States to South Africa, but the former is no longer true, and probably the latter will not continue for long.

That the influence of climate upon the development of breeding stock is very great cannot be questioned.

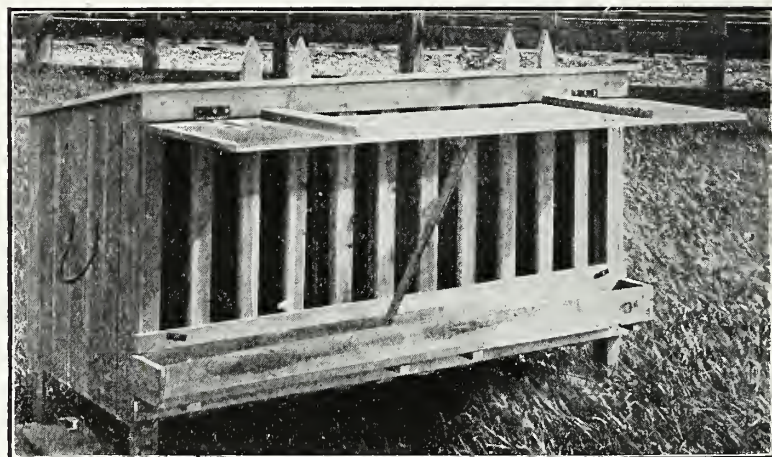
long observation. And, further, I question whether in certain directions the great majority of countries can ever hope to rival us in this respect. Another point is that the exhibition system originated in this country, and here it has achieved its highest development. No one fairly can regard it as perfect, or that the results are always beneficial, though in that respect the weaknesses are due to faults in application rather than to the system itself, to the exaggeration of abnormalities for immediate gain, but it is impossible to deny, and I certainly have never desired to do so, that it has had vast and, on the whole, beneficial influence upon the development of poultry-keeping and breeding, whether as a pursuit in itself as a means of food-production. The growth of this system, primarily in the first place for recreation or sport or pleasure, and later upon business lines, has brought into the work multitudes of men who have devoted a measure of time and attention to it given to no other class of stock. It seems impossible for animals or birds to be intro-

duced into the United Kingdom without bringing about changes in them which are in many cases definite improvements, and leading to a fixity of type that had not otherwise been obtained. In some cases, however, these modifications are doubtful in the extreme, the result of false ideals. In proof of what is here stated may be mentioned that breeders in Italy, Spain, India, and elsewhere have imported from Britain birds of the races native to their respective countries for the improvement of the members of those races in those countries, but where they had not been bred on definite lines. In my work on "Races of Domestic Poultry" I have discussed this question at length, but mention it here for the encouragement of breeders in this country, and for the development in them of a due sense of humility and of enterprise.

One of the essential factors in this connection is to study what buyers in other countries require and what they are willing to buy. So far as exhibition stock is concerned, by which is meant birds possessing to a high degree perfection of external characteristics, there is a steady demand, though I question whether it has grown to any great extent of late years. In fact, from conversations with exporters, it is evident that the export of expensive birds is not so satisfactory as was the case formerly, and that the demand is for fowls pure and typical at what may be termed good though moderate prices. I can remember the time, more than twenty years ago, when the sale of trios at £20 to £50 was comparatively easy, so long as these were stamped with the hall-mark of prize-winning at one or other of our great shows. But Colonial and foreign breeders were, at that period, content to follow English ideals and to accept decisions of our judges with very little question. Since that period they have gained more experience, have good birds of their own, and they are more critical, whilst the general stock in their lands has so improved that they have not the same need to import in order to keep up the quality of their birds. Therefore, demand is not so much for the very costly specimens, especially as in some of these the progeny are not of great value for utility purposes. We have, therefore, in this connection to realise that the sale of exhibition stock will to a large degree be determined by the extent to which shows are met with in other countries. At the present time the chief inquiry for this class of poultry of the purely exhibition type is mainly from Belgium, Holland, France, Germany, and, to a lesser extent, from Russia, with sporadic demand from Italy, &c. America—that is, the United States and Canada—still takes a fair amount from us, more especially of the newer breeds; but the races most in demand there are either what we call American or Italian. Had it not been for the introduction of the Orpington and its growing popularity across the Atlantic, due to some extent to the enterprise of British breeders on the one hand, and on the other to that of American breeders like Mr. Kellerstrass, of Kansas City, whom I regret not to have known when I was in that city five years ago, the trade with that country would have been almost nominal. The Trade and Navigation Returns declare the value of poultry exported from the United Kingdom to the Colonies and foreign countries in 1910 to be just over £60,000, inclusive of live and dead birds. If that is correct it means that the total value of live fowls exported for breeding purposes could not be much above £20,000 per annum, which is a con-

temptible sum, and should be multiplied tenfold at least.

In other countries than those named, and also these to some extent, the main demand is, and is likely to be, mainly for pure-bred, typical stock at a moderate price, or, to put it in another way, for utility fowls. There is no desire for extreme exhibition birds, as the opportunities of showing them are so limited, and, except when bought by wealthy people for ornamental purposes, there is little demand for them. The class of fowl which can be sold in increasing numbers is that already referred to, of a high grade in respect to its egg-production or meat qualities, whilst pure in race and type. I know there is a common impression that it is of no use pushing the sale of utility fowls in the Colonies or abroad, but that I cannot help regarding as a mistaken view, and there might be sold a hundred or more of these for every exhibition bird that finds a market in other countries. One instance of this will suffice. When in America one of the largest breeders of White Leghorns told me that a few days before he had been visited by a gentleman from the Continent of Europe, who purchased 130 fowls at the rate of \$5 each, that is, 20s. 10d. I have no doubt that if the price asked



A GOOD FORM OF EXPORT COOP.
Made by Mr. W. Tamlin.

had been £5 each the buyer would have bought half a dozen. It was more profitable to sell the larger number, which left a handsome profit, at a less rate per bird, than to hold out for a higher figure and dispose of a smaller quantity. In fact, I could not help coming to the conclusion that the reason why American breeders have extended their export trade to so remarkable an extent is not alone that they have paid more attention to the economic qualities, but also that they have been content with lesser prices, due perhaps to the greater extent of their operations. It is frequently a mistake to limit the trade, and, therefore, the total turnover, by insisting upon high prices. That is true at home and abroad equally. There is not the same probability of discontent with moderate-priced birds as where the charges are high.

This leads to a very important question—namely, complaints as to the quality of birds exported, which cannot be returned. It is an old story. Something is due to the different ideas and values in this country. A bird for which a number of purchasers here can be found at, say, £5 may not be worth that amount plus the cost of transit in the Colonies, where, probably, there are thousands as good. The

question has recently been brought up again in a striking manner. Mr. A. M. Prain, writing in the *Feathered World* (March 3, 1911) on his observations in Australia, says: "Too frequently have these enthusiasts been disappointed in the past. I know of one who killed every bird as soon as they landed. I also saw a good many imported birds which were not worth half what had been paid for them." That is a serious charge, as it not only means offending the individual, but is destructive of confidence.

With respect to dealing with those who do not speak our language there is much that requires to be done to secure direct trade. A breeder who receives a letter in a foreign language will find it worth his while to endeavour to respond in the same way, and a little money spent on translations will bring an abundant reward. In these days, more especially near the great towns where are schools of languages or foreign correspondents in business houses, there is no real difficulty in obtaining the necessary assistance at a moderate cost. Knowing something of other countries, and having seen birds bought through agents abroad at a considerably enhanced price to the buyer, I feel confident that our breeders would give a great impetus to the business if they took a little trouble in this direction. Some have already done so with good results.

EXPORT OF PRIZE POULTRY.

By H. ABBOT.

THE export trade in prize poultry and eggs for hatching has grown to such large proportions during the last few years that it is no uncommon thing to hear of a small breeder receiving an export order and shipping the birds without the least idea of the style of coop they should be sent in, or the amount of food and grit to go with them. Cases are on record in which they have been shipped without food or water vessels, the ship's crew having frequently to provide these necessary items. The writer has been told that birds have often been received in the most unsuitable packages for export to such far away places as Australia, South Africa, India, &c.

A word of advice to would-be exporters of prize poultry may not be out of place here; at any rate, it may save a great deal of suffering to poor birds sent away on such long journeys in unsuitable packages, and anyone receiving an export order, unless he understands the sort of coop and size required and is accustomed to shipping, would be well advised to put the forwarding of the consignment into the hands of a reliable forwarding firm, who undertake to coop, provide food and water tins, food for voyage, and, if necessary, insure against death.

The writer has shipped thousands of fowls and eggs to almost every country in the world with the best possible results, not losing more than three per cent. on the voyage, and the fowls invariably arriving at their destination in perfect condition. This result can only be attributed to the way they are shipped—that is, proper export coops being used and suitable food and water vessels provided, and a liberal supply of proper food sent with them. Instruction must be given to the Chief Officer or other responsible person to take charge of them on board the ship by which they are sent.

The coops used should be both light and strong, closely boarded tops with splined sides and ends being the best. These should be covered with canvas, except in front, which can be taken off if the journey necessitates going through the tropics, so that the birds can get all air possible. If going into a cold climate the canvas can remain and a sheet also be hung down in front of the coop.

The size and dimensions of coops will, of course, vary according to number and variety of birds to be exported, but the space I allow for ordinary fowls is 2ft. square by 2ft. 2in. deep, inside measurements. For instance, if two trios are to be exported a 4ft. coop is provided with division in centre. A hinged flap should be provided at bottom of coop to facilitate the cleaning out during the voyage without taking out the birds. A bag of peat moss litter or other material should be sent with each consignment, so that a fresh bed can be given the birds when coops get dirty. Grit should be mixed with corn at the rate of, say, one tenth grit to nine tenths corn.

SHIPPING FOWLS ABROAD.

By ART. C. GILBERT.

THE easiest way to ship poultry—although perhaps not the cheapest—is to forward them through one of the express or foreign freight and parcel offices, such, for instance, as the Wells Fargo Express Co. for America and Canada; Messrs. Davies, Turner and Co. for Australia, South Africa, &c.; while for the Continent Messrs. Friend and Co., or the Continental Daily Parcels Express Co. may be used. These and many other large companies have offices and branches in London, Liverpool, and most of our large shipping and trading towns; and they deliver consignments of birds freight forward, collecting the freight on delivery. This is a great boon in many cases, especially to a small man, who does not want to be out of pocket on his freight charges for two or three months or probably longer. At the same time, intending shippers should take note that on this kind of shipment if the goods are refused by the consignee the express or freight company employed charge the shipper of goods for full freight outward bound and home again.

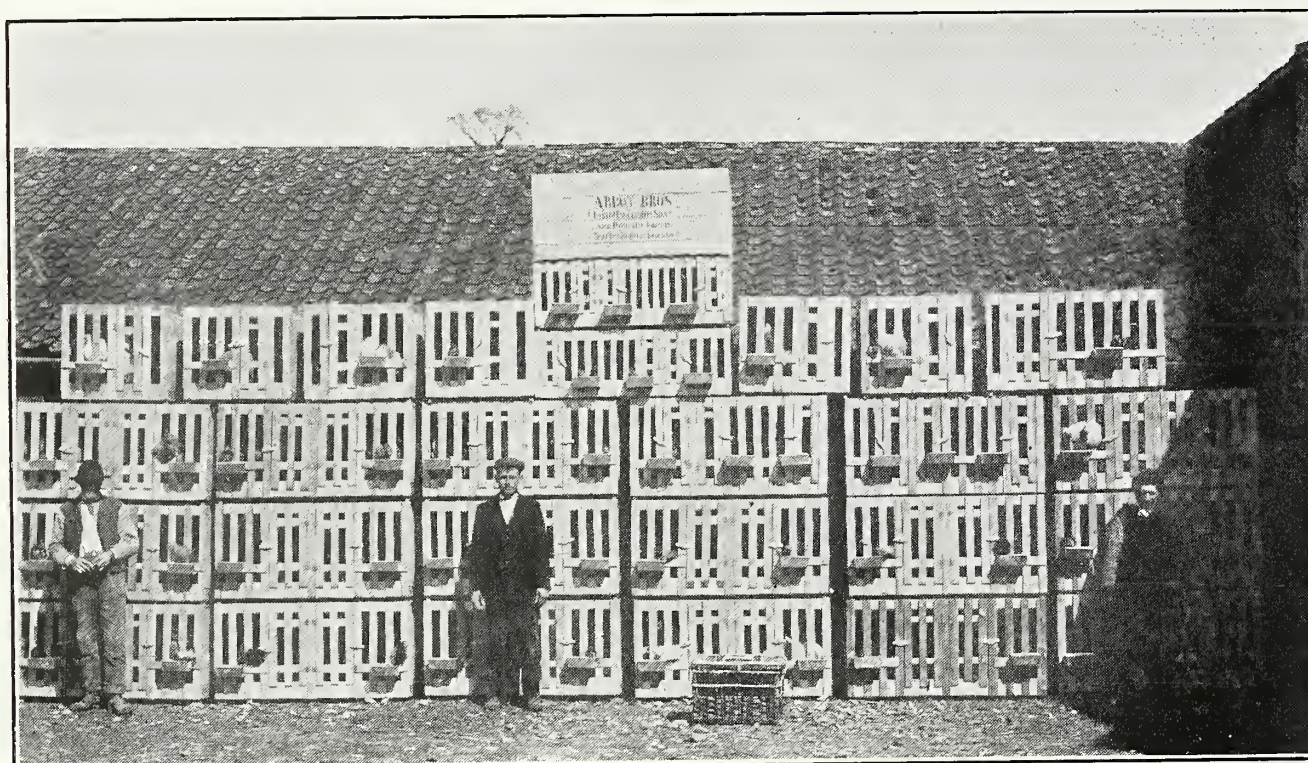
On the other hand, one can always send direct by the steamship companies, such, for example, as the Cunard, the Atlantic Transport, the P. and O., Donald Currie, &c. Write to the company which runs boats to the nearest port of landing to the home of your client. Ask for a sailing-list, the home of your client. Ask for a sailing-list names of boats; state the number of coops; size or measurement of same; number of birds; who for, and where to, and what the freight would be, also by about what date you want them sent. They will then let you know if they can take them, and give you the freight charge. This, with the cost of bills of lading, you will pay beforehand. You can then quote the freight charge on to your customer, if you have not already done so. Your invoices want to be made out in triplicate—one for the Customs, one for the shipping company (these two to be sent to the shipping company), and one for your customer. Consignments over £20 in value require a Consular Invoice, made out in triplicate,

which must be applied for to your shipping company several days before shipment in order that you can have them filled in and returned in good time for the shipment. Make the Consular Invoices out the same as your regular invoice.

With regard to the coops for shipping fowls, they should be strong, light, and roomy. The following measurements and numbers of birds that will travel in them, which are based on my own experience and in which I have shipped to all parts of the world, will be found useful: No. 1, 2ft. high, 2ft. broad, 2ft. long. This coop will take a trio or a cock and 3 pullets, or 4 hens, or 3 cockerels together. No. 2, 2ft. high, 2ft. broad, 4ft. long. Two compartments, takes double of any of No. 1. No. 3, 2ft. high, 2ft. broad, 6ft. long. Three compartments; three times of No. 1. So No. 3 will take 12 pullets, or 3 trios or 3 quartettes, or 9 cockerels. No. 4, 2ft. high, 2ft. broad, 6ft. long; 2 compartments; will take 6 pullets and 6 cockerels; or 14 pullets. If shipping only pullets, hens

they are called in the ironmongers' shops). Put one 5in. or 6in. piece of matching or board around front, sides, and back, at the bottom of coop to keep the peat moss or chaff in; then one piece 4in. or 5in. ditto, around sides and back, in centre or half-way up coop. Then cover sides and back with sacking, or with sacking canvas, which you can procure in 50-yard rolls. Put one drinker in each compartment for fowls, two for ducks. Put about 2in. deep of peat moss in the bottom of each coop: failing this, put chaff, but the latter is not as good for a voyage—as the wind is apt to blow it all out. Birds going to South Africa, Australia, India, or on equally long trips must have an extra bag of peat moss (to every fifteen or twenty birds) sent with them to clean out on the voyage, as not only does it get dirty, but is liable to get wet in heavy weather.

For food send good short oats and good wheat, mixed in equal proportions, with grit and shell added and mixed in. No soft food mixtures are



A LARGE CONSIGNMENT OF FOWLS.

Sent by Messrs. Abbot Bros.

or ducks, the same size coops, with the difference only of 18in. in height instead of 24in. No. 5, 2ft. high, 2ft. broad, 4ft. 6in. long, for 1 cock and 5 or 6 hens or pullets. No. 6, for turkeys and geese, 2ft. 6in. high, 2ft. 6in. broad, and 4ft. long; 2 birds. Flat roofs in all cases, and then if large consignments they will stand safely on one another on deck during the fine, hot weather, and so get the cool breezes, which are good for them.

Material for construction: For the frame use 1½in. by ¾in. battens. These must project 2in. to 4in. below the coop, so that when washing decks of a morning the water runs clear of the bottom of the coops. For roof, floor, and partitions use 5in. by ½in. matching. For front of coops and doors use 1½in. by ¾in. battens, about 3in. or 4in. apart, doors to correspond, these to be 9in. or 10in. broad, hung on two hinges (or 1in. back flaps, as

required, as the birds keep in far better condition on a voyage on good hard corn, which does not become dirty. Keep the fowls for two or three weeks before shipping on hard food, with a good supply of green food, such as cabbage leaves, or grass, as they will miss the latter on the voyage, unless you see the butcher or ship's steward before sailing, and give him 10s. to £1 to look after them during the trip. This can be sent to the shipping company, who will see the butcher or man in charge, and arrange it for you, if you cannot manage to see the birds off yourself, which, of course, is frequently impossible to manage.

To build up trade abroad, always send good birds, full value for money, more than full value rather than less, for people across the water pay good prices and naturally want good return for their cash.

NOTES FROM ABROAD.

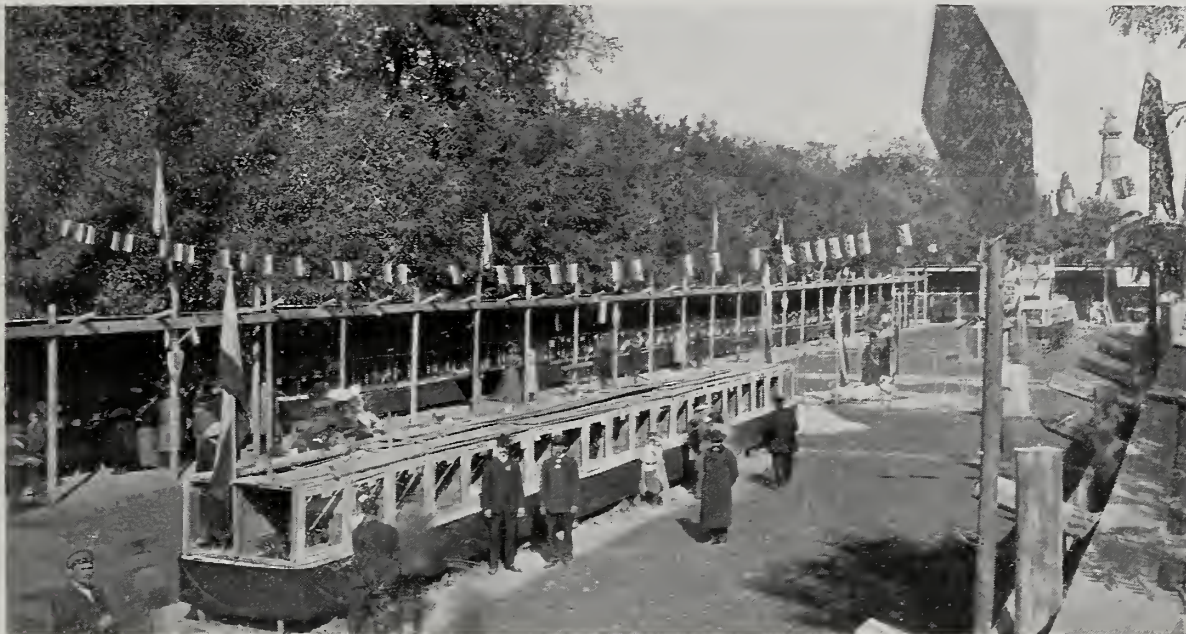
THE POLTAWA POULTRY SHOW.

THE district of Poltawa, in Russia, is well known to the British public owing to the great battle won there by Peter the Great over the Swedes in the year 1709. The monument in memory of that fight and the tombs of the fallen soldiers are situated at about three miles from the City of Poltawa, and are constantly visited by a large number of excursionists.

To a poultryman or anyone interested in poultry-breeding, the district presents many other points of interest, as it is the centre of action of the Poltawa section of the Imperial Russian Utility Poultry Association. The section was formed only eight years ago, in the year 1902, and during this short

the entries were farmers' fowls, ducks, and geese, quite capable of competing in quality with the best specimens of well-known poultry plants.

Besides the annual display in Poltawa, the association arranges several poultry shows in the country, one of the principal features of which is the demonstration sections, with specimens of all the best utility breeds of poultry, appliances, and literature. The birds are generally given for the purpose by members of the association, and after the end of the fair are distributed to such farmers as are mostly interested in poultry, or sold by auction at low prices, in both ways proving to be a powerful encouragement. The activity of the association does not limit itself to the arrangements of shows, conferences, poultry institutes, &c.; it is also highly interested in the commercial side of the question. Next to having improved the breeds remains that of obtaining the highest returns, in which respect instruction along co-operative lines of marketing has proved most valuable. The first steps have shown that the methods are sound, the



GENERAL VIEW OF THE POLTAWA POULTRY SHOW.

[Copyright.]

period of existence has displayed great energy and attained very marked results. Some of the towns and villages in the neighbourhood of Poltawa have already solved the problem of the Scrub-fowl, and keep standard breeds, mostly clean-legged Black Langshans of the old cobby type. Barred Rocks are second in popularity, White Wyandottes, Buff Orpingtons, and Leghorns coming next. Some of the farmers have taken in turn to nearly every breed in existence, trying to find out which one would suit them best.

The quantity of good birds to be had at these villages has already created a satisfactory trade, higglers coming here from other towns and districts to buy up lots of show birds for the purpose of exhibiting them at country fairs and poultry shows. This is directly or indirectly the work of the Poltawa Poultry Association. A few years ago exhibits of farmers' poultry were an unknown thing, and if met with occasionally were of very inferior quality. At the late poultry show in Poltawa one-third of

people are interested in good breeds, and when they have learned their value and the way to breed them, the rest will come in time. The association starts another year's operations with the brightest hopes for the future, having at its head such energetic and thorough leaders as Messrs. P. N. Malarma (the president), A. S. Godovsky (the secretary), L. L. Senko-Savoytsky, and others.

Chicken Hatcheries.

Profitable Poultry says that "hatcheries must be established by united effort and the capital brought together by subscription, just as creameries have been built in convenient locations," and asks why should not "the hatching of a township be done in one of these great incubators, attended to by one man, instead of in twenty or thirty separate incubators, attended by twenty or thirty different individuals?" Our answer would be that the difficulty lies mainly on the commercial side.

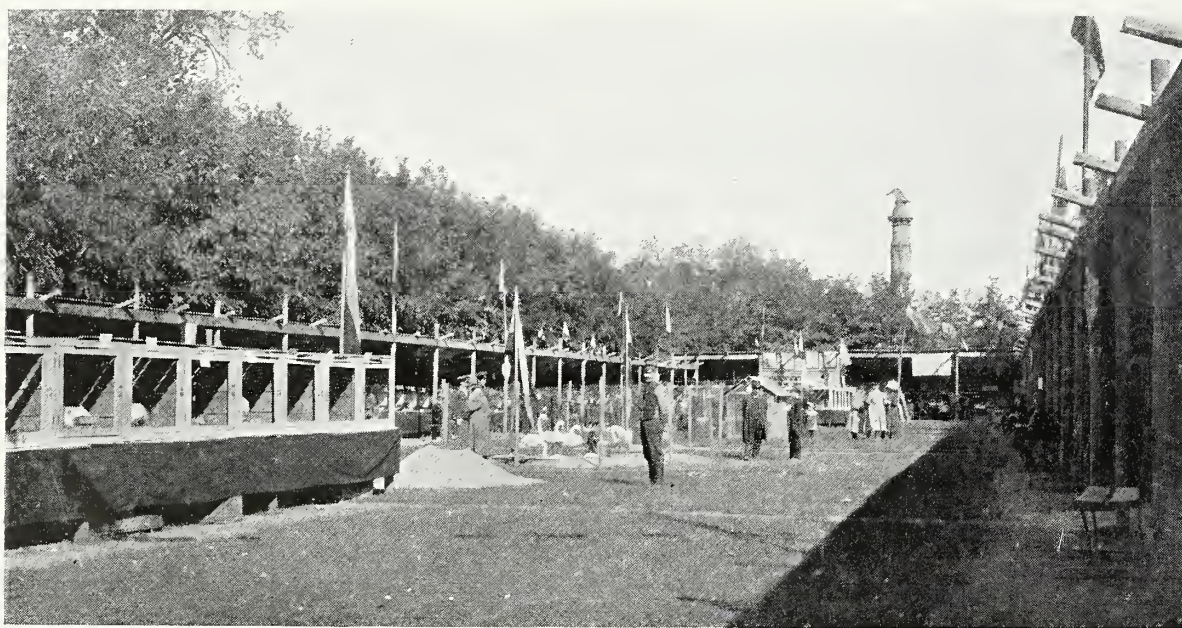
POULTRY-KEEPING ON THE FAROE ISLANDS.

By W. A. KOCK.

IN the northern part of the Atlantic Ocean is a group known as the Faroe Islands, of which seventeen are inhabited, and some smaller with no one living thereon. They are subject to Denmark, and I had an opportunity of visiting them last year. The name means in the Danish language the Sheep Islands, which is a correct designation, as more than a hundred thousand of this breed of animals are kept there. The natives make their living by agriculture and fishing. Although the summers are cold, the winters are comparatively mild. It, however, rains upon an average 278 days in the year, and the wind storms are very severe. As a rule every family residing on the islands keeps

the hens were what we called "controlled"—that is, records of their laying are taken—and the results in winter have proved excellent. Chickens are not much in demand, as the people on these islands do not care for poultry flesh. They only realise 40 ore (5d.) each. The main object is to get good laying pullets. Each resident keeps only a few birds. Larger poultry plants are unknown, and these could hardly be expected to pay in consequence of the high prices for corn, and the cold, wet seasons which generally prevail.

Turkeys are not bred on these islands, but geese and ducks, more especially the last-named, are kept extensively. Nearly everyone has a flock of ducks. The conditions are very favourable for waterfowl, which can run where they like, and are able to revel in the streams and lakes which abound. In addition to the common ducks are Pekins and Indian Runners, the last-named of which are very numerous. These are used to cross with the common ducks, and have proved by this cross to produce



ANOTHER VIEW OF THE FOLTAWA POULTRY SHOW.

[Copyright,

fowls or ducks, the latter being the more numerous. In both cases the birds are very small, and the ducks are very like the Mallard in shape and colour.

In consequence of the situation of these islands, grain crops will not ripen every year, so that little is sown. Corn is, therefore, expensive, as it has to be imported from Denmark or Scotland, and very little is used for poultry, which are fed principally upon household scraps, no pigs and only a few dogs being found on the islands. In boiled whalemeal, however, they have a good and cheap food, provided it is not given in too great a quantity, as it affects the flavour of both the eggs and flesh. The price for this whalemeal is only 1 to 3 ore (8 ore 1d.) a Danish pound. Boiled potatoes and beetroot are also given to the fowls.

During recent years several pure breeds have been imported into the Faroe Islands from Denmark—namely, Leghorns, Minorcas, Plymouth Rocks, and Wyandottes. Among these White Wyandottes have proved most popular, and I was informed that they are succeeding admirably. At one place I visited

prolific layers. I was informed that the Indian Runners lay well in October and November, and have proved suited to the weather and general conditions. My opinion is that much might be done in exporting eggs from these birds to the British markets, in exactly the same manner as at Landsmeer, near Amsterdam, Holland, where large numbers of ducks are kept only for laying. The geese met with are very similar to the common Danish type, and these birds thrive well, as there is abundance of water and plenty of fine, short grass. Each spring the old geese and goslings are put out on the fields, where they live all the summer and autumn. The old birds also graze throughout the winter on the fields, which are fenced with stones. During bad weather they are supplied with a little corn. They lay usually eleven to thirteen eggs, from which eight to nine goslings are obtained. Hens are never used for hatching, that work being left to the geese. The price of unfatted goslings is 1½ krone (1s. 8d.) each.

At the present time no eggs are exported. A few

are pickled at the creameries, but only for home consumption.

Besides the ordinary poultry the people on these islands are interested in wild bird catching, and eggs are collected in this way. On some of the smaller islands they have provided breeding places for Eider ducks, collecting from them the valuable eiderdown. At one of these islands more than 500 of the ducks named breed annually.

Without doubt much could be done to encourage poultry-breeding by the establishment of good breeding centres, as in Denmark, from which better birds could be distributed, and by distribution of information by means of lectures and general instruction.

POULTRY FARM AT LUNDGAARD, DENMARK.

ON a fine morning recently I visited the owner of the poultry farm at Lundsgaard, by Kerteminde, on the island of Funen. Count Ahlefeldt Laurvig, the owner, is deeply interested in poultry-breeding, and makes a speciality of Buff Orpingtons and the German White Nassauer. The former were originally imported from some of the best breeders in England, and the latter from the Rhine Country. Both are doing well in Denmark as layers and for table purposes. A large number are fattened on the English system and sold for home consumption.

The run shown on the accompanying photograph is well protected by forest trees, and there is an abundance of grass. On the meadows are kept and bred many ducks and geese, and at the farm are

lege has carried out at different places experiments in breeding poultry, but now these are conducted at Lundsgaard. In one of the photographs is shown a corner of the experiment station, where some of the common breeds are kept. Last



EXPERIMENTAL POULTRY HOUSE AT LUNDGAARD.
[Copyright.]

winter various experiments in fattening were made, as this is a branch of poultry-keeping of considerable interest to breeders who desire to learn the best methods and the cost of breeding and fattening chickens. In addition, trap-nests are used for all the hens, and only the best layers are used



A FLOCK OF WHITE NASSAUER AT LUNDGAARD.

[Copyright.]

bred yearly more than a hundred guinea-fowl and turkeys. The last-named are put out on the stubbles in the autumn, and later are driven into the woods.

During the past eight years the Agricultural Experiment Department of our Royal Veterinary Col-

lege for stock purposes. All chickens are toe-marked.

Near the main residence are kept a large number of pea-fowl, which look very beautiful, and also guinea-fowls, which can roam where they like.

W. A. KOCK.

THE PETALUMA POULTRY INDUSTRY.

IT is almost impossible adequately to describe the poultry industry of the greatest egg centre of the world, Petaluma. No series of photographs can show it just as it is, and no written article can place before the eyes of those who have never visited that section of the country a pen-picture of the industry as it is carried on. The two million fowls kept in the Petaluma district are distributed over an area of about twenty square miles. The small valleys which nestle among the rolling hills are in themselves small poultry centres. The configuration of the country is such that comparatively few fowls may be seen at any one time. One might well wonder why Petaluma, rather than any other particular place, has become so famous as a poultry centre. It has not come by chance, though there are other parts of California, such as Sacramento and San Joaquin Valleys, which are admirably adapted for the keeping of poultry in large numbers. These are fast coming into prominence as poultry-raising sections. The valleys of California that are sheltered by the mountains and have transportation facilities are developing rapidly. Petaluma, in Sonoma County, a city of 7,000 inhabitants, is situated about forty miles north of San Francisco, and is about twenty or thirty miles inland from the coast. It lies on an inlet of the Bay of San Francisco, and is thus connected with the market by water and rail. Its transportation facilities have been an important factor in the development of the industry. It is found that Petaluma, Santa Rosa, Healdsburg, Cloverdale, and other smaller towns in Sonoma County supply San Francisco with about one-half of her annual receipts of eggs. Petaluma alone sent out last year 7,159,481 dozen eggs and 120,018 dozen fowls. It is a city which has been built by the hen, and its future depends upon the common fowl. Statistics show that the hens of Petaluma convert from the raw materials the much-demanded finished product, the egg, at the rate of \$457 worth per hour, for ten hours a day, for 365 days in the year. This is the result of a gradual process of development. It might be interesting to note that poultry-raising has taken the place of potato-raising, which in turn took the place of wheat-growing, one of the first occupations of the early settlers in California. At present there is no indication that this industry is receding. The following figures give the exports from Petaluma from 1903 to 1909. To obtain the total production, to these figures must be added the eggs used for hatching and the eggs and other poultry produce used for home consumption:

YEAR.	EGGS, doz.	POULTRY, doz.
1903	3,407,333	32,535
1904	3,493,321	32,286
1905	3,837,061	39,392
1906	4,334,321	39,938
1907	4,422,968	39,392
1908	5,312,804	83,136
1909	7,159,481	120,018

From this it may be seen that the industry is receiving greater attention, and its value to the country is being realised as never before.

Recent organisation among the producers and a system adopted for grading eggs has given encouragement to more careful methods. There has

been established an Egg Exchange based on the co-operative system. The producers deliver their eggs to the Exchange, where they are candled and graded. Of the total product of Petaluma, only a portion is handled through the Exchange. This seems rather peculiar, since the prices paid by the Exchange are considerably above other quotations. It points to the fact "that farmers are probably the most difficult class of men to engage in any co-operative undertaking." The Egg Exchange, however, is meeting with continued success, and is extending its operations. At the present time it handles eggs only, though it hopes in the near future to purchase foodstuffs and sell them to the producers at reduced rates. The eggs received from the producers are graded into three grades: Nos. 1, 2, and 3. All eggs passing into No. 1 grade must be spotlessly clean, and weigh 1 5-6 ounces. This makes one dozen weigh 22 ounces. No. 2 grade are smaller eggs, while No. 3 are culls and cracked eggs and are used locally. The difference in price between grades No. 1 and No. 2 varies considerably from 5 cents to 20 cents a dozen. The average price for all eggs, including the washed ones, in 1909, was 27 $\frac{3}{4}$ cents.

One only needs to watch the steady growth of the poultry industry at Petaluma to realise the importance of co-operation in the selling of the produce from the flocks. The system established at the Egg Exchange is based upon practical facts rather than theory. Thirty-two years ago there was practically no poultry in or around Petaluma. In the early history of the industry there was no co-operative system; the poultrymen sold their eggs and fowls to the "middlemen." Many of these middlemen represented feed companies and commission houses. When dealing with the grain houses the company often charged the poultryman top prices, in return for which he generally allowed the lowest market quotations for his eggs. The eggs were not candled or graded in any way, being forwarded through the buying agents direct to the markets in San Francisco, Los Angeles, and other places. Now, however, different conditions prevail. The poultrymen are beginning to realise the advantages of improved market conditions. The Exchange, which has been in practical operation about two years, provides the poultrymen with the special market advantages and is a great educational factor. Probably its value as an educational institution is as great as its value from a monetary standpoint. It teaches the producer the necessity of sending the eggs to the consumer in as fresh a state as possible, and it teaches the consumer the difference in quality between a good and a bad egg. The producer soon realises the benefits derived through adopting improved methods. He receives top prices for his eggs, which have been candled and graded, and sent to the market in strictly fresh condition. He realises that the egg is at its best when laid, and that its value decreases while being held until shipment. He realises that eggs shipped in clean cases, fitted with clean fillers, command the best prices. It represents quality, and the higher the price above the average the greater are the profits.

Co-operation, when properly applied, eliminates the influence as well as the excessive profits of the "middleman." It brings the producer and consumer together, and places the business of poultry-keeping upon a stable basis.—*Bulletin 29, Department of Agriculture, British Columbia.*

THE MODERN CRAZE FOR SIZE.

[We have pleasure in publishing some further criticisms on the important subject raised by Mr. Geo. A. Palmer in last month's issue.—Ed. I.P.R.]

By W. M. ELKINGTON.

MR. PALMER'S article raises some very interesting points which will bear discussion, and I venture to challenge some of his arguments, for it appears to me that in his eagerness to kill one craze he runs a grave risk of starting another. Mr. Palmer commences on a perfectly safe line of reasoning in quoting the many illustrations that prove the superiority of moderate-sized domestic animals, but when he comes to poultry he asks us first of all to believe that the smallest breeds are invariably the best layers, which is very unjust to what he calls the medium breeds, such as Buff Orpingtons, Buff Rocks, and White Wyandottes, which in public tests have proved themselves equal to anything we have in this country.

But the particular passages in which Mr. Palmer's arguments invite criticism are those in which he refers to the size of eggs. This has become a pressing question in recent years, and one only has to analyse the figures in the laying competitions to realise how many birds lay eggs below the normal size. And, if we are to accept Mr. Palmer's arguments, this is of no consequence whatever. An egg is an egg, and so long as you get plenty there is little to grumble about. English eggs dominate the market, and buyers don't mind the size if they know they can depend upon getting home produce. This is an entirely new theory, and is opposed to facts that anyone who takes the trouble may ascertain. The simple truth, however unpalatable it may be, is that the English egg does not enjoy the unique position in the market which Mr. Palmer would lead us to suppose, for the reason that certain foreign producers, by means of up-to-date methods of grading and marketing and rapid transit, are putting as good a quality as our best, and in as short a time, into London, and gaining a trade that we are being led to fondly imagine is our special perquisite for reasons that are mainly sentimental. And what will happen if Mr. Palmer succeeds in convincing British poultry-keepers that small hens laying small eggs are the most profitable? Simply that more buyers will learn by experience that the Continental article is better than the British, and when that happens down will go our prices. So much for the best market in the world—London.

In the country a very similar state of affairs will arise. I have submitted the question to a grocer who does a very large trade in eggs in a Midland town. I quoted Mr. Palmer's arguments, and he replied: "It wouldn't do with us. We have more trouble over small English eggs than over foreign ones, and I've had to refuse a lot this winter because they were too small to be saleable." This gentleman agreed that the superstition about an English egg being perfection just because it is English is gradually disappearing, and will be forgotten entirely when consumers realise that the term foreign

egg covers a good deal more than the low-grade Russian importations. The statistics from the Trade and Navigation Returns, quoted by Mr. Edward Brown in his review of the poultry industry in 1910, indicate clearly how the higher-grade Continental eggs have made a market for themselves within the last decade.

Mr. Palmer's arguments go beyond the limits of safety. It is so easy to lose size. The careless breeder does it by means of immature stock, late hatching, and general impotence. The specialist breeder might, if he were so disposed, sacrifice everything for prolificacy, but that the rules of the U.P.C. laying competitions wisely regard value to be the determining factor, and happily the majority of poultry-keepers recognise this principle. Breeding for egg-production has gone so far that it is doubtful whether any appreciable increase in the number of eggs can now be obtained without a corresponding decrease in their size, which, I am firmly convinced, would deal a serious blow to the British egg trade. It is a physical impossibility for hens of a normal size to produce an increased supply of full-sized eggs, and if breeders are to go further in this direction, I would suggest as an alternative to Mr. Palmer's idea that they must endeavour to extend the productive capacity by breeding hens that can assimilate more nourishment and turn it into more eggs without embracing the objectionable properties which Mr. Palmer rightly considers detract from the value of very large fowls.

This is a question for utilitarians, who need not trouble themselves about the hybridising operations of the size-loving fancier. It is a question whether we can afford to drop below the normal in regard to the size of birds and eggs, and whether progress in the future is likely to be more satisfactory if we throw over the principles by which other nations are getting a firm hold in our markets.

By "THE WORCESTERSHIRE POULTRY FARM."

MR. PALMER undoubtedly deserves the thanks of utility poultry-keepers for calling attention to the absurd craze for size existing at the present day, and we heartily agree with the opinions he expresses. With all due respect to Mr. Tootill's opinion, we hold that Mr. Palmer is quite correct in his simile.

Mr. Palmer's first statement was "a small pony of 12 hands is the most economical form of horse-flesh, and can do the most work for food eaten of all his tribe." The fact that wealthy brewers and corporations pay high prices for big shires does not, we submit, affect this statement one atom. We always have over fifty horses in hard work, and we have no hesitation in saying that the tightly-

made, compact, active horse that has not been forced in his growth will do far more work proportionately and last nearly double as long as the big overgrown shire.

As to cows, we venture to submit that Mr. Tootill's argument is equally shallow. Because the farmers in his district keep "big, roomy Shorthorns," it does not follow that they are the breed that turn "the greatest proportion of their food into milk." One might truthfully reply that because thousands of Ayrshire cows are kept in the Dumfries and other districts in Scotland, therefore these cows are the most profitable. As a matter of actual fact, from personal experience with Ayrshires and Shorthorns we say Mr. Palmer is quite right. We have a small herd of pedigree milking Ayrshires, and, in addition, we milk about ninety Shorthorns and their crosses, the milk records of all being kept. We find the Ayrshires give as much milk as the Shorthorns and eat considerably less. Roughly estimated, the food required by three "big, roomy Shorthorns" will keep four Ayrshires.

Mr. Tootill's comparison of sheep with human beings is really ludicrous. Lecturing in Birmingham on March 1, Professor J. A. Thompson, of Aberdeen University, the well-known authority on heredity, referring to the notoriously large family of the poor man in comparison with that of the rich, said "part of the reduced fertility might be due to hyper-nutrition and the like to celibacy selfishly prolonged, and to selfish non-maternity."

Can anyone imagine this applying to sheep! Fancy selfish non-maternity in a ewe!

From a fairly large experience with poultry, we say Mr. Palmer is again quite right with regard to size, and Mr. Tootill wrong when he says the size of a bird has little or nothing to do with egg-production. We have never yet found the heaviest fowls in any breed to be the most prolific layers; in fact, they nearly always turn out to be the medium to small-sized birds, and at present we are trapping nearly 550 1910 pullets of half a dozen or more different breeds. That this is the experience of other utility breeders is proved by the report referred to in your editorial notes of the Northern Utility Poultry Club's Laying Competition. The first five places were all obtained by White Wyandottes, and not a single bird approached in weight. Mr. Tootill's Show Leghorns, very few reaching the minimum standard laid down by the Fancy. We hold that size should only be cultivated when it is a utility quality. Size of egg is no doubt desirable, but size of bird has no influence whatever on this.

Mr. Tootill and other fanciers are never tired of impressing on us poor utility men what a lot they have done for us and into what "chaos" (?) we should get without them. Is it too much to ask them "to let that hare sit" for a time?

As regards table-poultry, the Fancy has undoubtedly done some good, but in regard to the other utility quality of poultry—viz., egg-production—it has undoubtedly done harm. No fancier can deny that in mating his pens he studies size, colour, and type solely, and rightly too, otherwise he could not win. How, then, can these points possibly increase egg-production? The great advance that has taken place in poultry-keeping in the last ten years has been mainly in the utility direction, and has been due to the fact that breeding for eggs has made poultry-keeping profitable on commercial lines, and this has been done solely by the utility men without any assistance whatever from the fanciers.

By W. W. BROOMHEAD.

THERE is much in Mr. George A. Palmer's article in last month's RECORD over which one might ponder; but in it he raises points with which some of us cannot possibly agree. For instance, to say that the craze for size in the show-pen has had a most adverse influence upon the economic qualities of many of our best breeds, is one of them. If he had used the word weight instead of size, well and good. The craze for weight has done, and is doing, a lot of harm, some show specimens being so fed that as breeding stock they are practically useless. But when it comes to size only it is another point. I always thought, and have invariably found, that out-crossing is one of the best ways of improving certain economic qualities, granted the usual health on each side. Hence, the Ancona crossed on the Minorca, the union of two practically distinct breeds and both great layers, should not lead to deterioration. The same with Black Leghorns and Minorcas. It is well known that the Hamburgs figure among breeds laying the greatest number of eggs; but what about the size of those eggs if they have to be sold in the open markets or to "cute" shop-keepers? In a private deal, a small poultry-keeper selling eggs to a friendly neighbour, or a milkman disposing of the comestible to an unwary householder, it might not matter so much—pullets' eggs and genuine new-laid often counterbalance size in these instances. But, has Mr. Palmer never heard the yarn of "the black hen's eggs"? It is too much of a chestnut to be related here. It goes to show, however, that the egg of goodly size is the one required by the bulk of the public.

Then, touching the question of size as it affects dead table-fowls, what about the Sussex, or the Buff Orpington, two of the biggest bodied and biggest boned breeds there are at the present day? Quantity rules with the vast majority of buyers and quality is quite a secondary consideration. This past season, among other breeds, I reared a few La Bresse for table. As "runners" they were useless; a buyer whom I had to purchase some surplus table-fowls smiled broadly when I told him that they were "the" thing in the French markets. I smiled, too, when I put a pair on the table; they did not go much farther than one White Wyandotte cockerel of the same age! The delicious Campine killed young enough would no doubt answer well for those who like milk chickens and Petits Poussins; but some people like to taste fowl and sit down to the board with an appetite. No doubt buyers and consumers do require educating; but it is useless to preach the gospel of smallness to them when it comes to eggs and table-fowls.

Reverting, however, to fowls in the show-pen. Has Mr. Palmer ever handled many apparently big fowls when staged at a show? Take the Orpingtons. After a Black or a Buff has been washed and then dried in a fluffing-out pen it often resembles a Cochin in size, but just as likely as not it will be a surprise when taken in hand. Admittedly no one requires the size of a Dorking in a Hamburg; but on the other hand the reverse would be as objectionable. There is nothing much wrong with size nowadays, and especially if it is obtained by out-crossing. Weight is the point that requires watching in show birds.

By GEO. NICHOLLS.

I HAVE read with much interest Mr. G. A. Palmer's article in your March issue, and I failed to find any vital point that does not coincide with the opinion founded on my own experience.

The criticisms that appear side by side with the article go beside the point in several instances. Mr. Brown condemns 1½oz. eggs. Mr. Palmer in his article does not advocate them, but is willing to allow this size for the pullet's first batch, in order that, when the bird matures, she may lay an egg of the most suitable size for incubation. I quite admit Mr. Brown's innovation would be an improvement—*i.e.*, after a bird laid two or three eggs to arrive at the 2oz. standard and not exceed it, for, as he aptly states, "We do not ask for more." I fear we should get more without the asking; the increase in size of a pullet's egg is gradual, and we must start low if we do not want monstrosities unfit for anything but consumption.

The main question appears to be: Were eggs sent as food for man or to perpetuate the breed? If the former, then try for size, but beware that you do not defeat your own object by destroying the class. If the latter, then breed for the size from which you obtain the greatest fertility and the strongest chicks. My experience has shown that these points are obtained from eggs 2oz. to 2½oz.

With regard to size interfering with production. During the recent laying competition I had the good fortune to be able to notice the peculiarities of upward of seventy different strains, and found the moderate and small birds more prolific, and of these the most regular layers kept under the 2oz. standard. The Buff Orpington pullet that ran up the splendid total of 103 eggs in 112 days was the smallest of this variety in the competition, her weight being only about 4lb.

Mr. Tootill appears to differ all round, but his contention *re* milking cows, that Yorkshire dairymen prefer the Shorthorn to the Jersey and Kerry is not conclusive. Yorkshire men are proverbially shrewd and know that there are other things to consider besides milk. The Jersey and Kerry are useless as far as beef is concerned. Referring to horses. It is not a question which size is the most profitable to breed or which hunter is the most valuable, because a weight-carrier is most frequently required, and consequently in greater demand. The question is which will do the most work with the least fatigue in proportion to size and food consumed. An illustration in support of this contention we find more clearly illustrated in the greyhound than any other animal. When Downs coursing (at Stockbridge, Amesbury, &c.) was the height of fashion previous to 1880, small greyhounds were always selected for this country, their extra stamina being required to withstand the great strain caused by long courses. The larger and acknowledged weaker animals were reserved for the countries of shorter courses. This can easily be proved by anyone not conversant with the subject if they take the trouble to examine back coursing records.

Turning to poultry. Everyone, I think, admits that the fancier is doing useful work, but at the same time all their standards are not conducive to good utility poultry. Take, for instance, the wedge-shaped body in the several varieties of Leghorn. To secure this the bird is robbed of

those organs in the hinderpart of his anatomy, one of which is the ovary. The best layers are always well developed behind, with legs wide apart. Great length of leg is also a cause of leg weakness, a strong deterrent to utility.

I remember Mr. Tootill mentioning during the great White Leghorn controversy that he had a bad laying strain of Brown Leghorns. This only bears out the Utility Poultry Club's contention that there are good and bad laying strains in every variety under the sun. The varieties in which we find good utility and the exhibition standard most combined are, in my opinion, in White Wyandottes and cockerel-breeding strain of Brown Leghorns. If fanciers honestly think for one moment that the present standards or the modern craze for size do not injure the birds from a utility standpoint, why do they not compete in our laying competitions? Utility breeders are quite open to conviction.

By CAPTAIN F. P. PIERSON-WEBBER.

SINCE you invite opinions on Mr. George Palmer's article, "The Modern Craze for Size," I write to say how pleasing it was to find such sound practical truths put forward without bias, but straight and to the point in the best of good faith. But why should such an article in any way detract from the good work of the fancier in the past? Rather let it encourage progress, and so popularise type that we shall aim at all times to breed on such lines as denote beauty, hereditary power, and economic merit for the particular purpose desired.

But though such truths are recognised by successful utility breeders of poultry, it does not mean to say we can do without the fancier, who by the greatest patience and most clever matings has evolved the massive breeds of the show-pen—for most assuredly they are in every way most beautiful and wonderful—but let them be given their true position, so that it shall be recognised from a utility point of view that they are usually unsuitable, are expensive to produce, and costly to keep; that it is not a case of the larger the hen the larger the egg, or the larger the breed the more eggs.

Neither will size of frame alone ensure rapid growth of essential meat properties. If the poultry industry is to make the most of thoroughbred stock it can only do with that class of hen which has hereditary power and type, and which gives the greatest amount of marketable produce quickly, for the least amount of labour and expense. It is everything that such produce should be of first-rate quality, as it means the highest prices, while the chickens should be no more troublesome or expensive to rear. It is entirely a question of knowledgeable selection, while the sooner we can market eggs or chickens the sooner we turn over our capital, and once more lay it out to profit. The middle course is here again practised simply because extreme precocity would lead to deterioration of the standard aimed at. Let us, therefore, all pull together in the great cause we all have at heart; let specialist clubs provide special prizes to encourage plumage and type in the utility competitions, so that each breed may be strengthened by its registered "laying strain," while no strain should be recognised unless so registered. Then let utility clubs come forward and offer special prizes for registered laying strains at exhibitions, and let

specialist fancy clubs have their register of exhibition strains, and assuredly the size question would settle itself.

In regard to the limit size for eggs, it is again simply a question of supplying the best markets as quickly as possible for the least amount of labour and expense, and although one might with justice disqualify a $1\frac{3}{4}$ oz. egg during the six most favourable months for egg-production, on the other hand there would be a ready market all round for it from August to January inclusive. Besides this, pullets laying so small an egg will improve the size in the next batch, but it would be dangerous to encourage a standard which aimed at less than a 2oz. average. But it is not merely the size of the egg which denotes its value, but rather its cost of production. Let us take for example some heavy breed of a strain that takes eight to nine months before coming into lay, and the case of a light breed that comes into lay in five to six months; thus three months' feed is saved—a considerable item in a twelve months' record. Moreover, all through the competition it will be found that the light breed hen will lay as good an egg, and as many eggs, but the heavy hen will require twice the amount of food, which is an extremely important consideration.

MR. GEO. A. PALMER'S REPLY.

I SHOULD like to thank Mr. Edward Brown, my fellow-worker for nearly a lifetime in the cause of utility poultry-keeping, for his kindly and courteous criticism, and to regret that we, who have so much in common, should differ on any one point in connection with the industry. That he agrees with me in the major part of my article causes me the greatest satisfaction, as I value his good opinion. For the rest we look at the matter from different standpoints. I have only been connected with the production of eggs, and naturally want to keep myself, and help to spread throughout the country, those fowls that leave the greatest profit. He for a long time has been associated with the marketing of the product and is probably biassed, although unconsciously, in favour of the article that he finds most readily saleable. It is quite in keeping with his ordinary courtesy that he admits that the total number may be slightly reduced in striving for size. Yet there is little between us. I am content with pullets that start off with eggs $1\frac{3}{4}$ oz., and he wishes them to lead off with 2oz. I have just weighed the eggs from the day's laying of the whole of my pullets in Houdans, White Orpingtons, Buff Orpingtons, White Wyandottes, Black Leghorns, Faverolles, Buff Rocks, all the breeds that happen to be in the gorse close pens, and they average 2 1-5oz. As these pullets were hatched in March, April, May, and June last year it is certain they have a long life before them and have not attained to their maximum size. I submit that their eggs are saleable in any market, and yet none of the birds started with a 2-oz. egg. Most of my eggs go away for hatching, but I have never had any difficulty about selling the smallest. The quality of eggs is of far more importance than size, and those who feed on a well-balanced ration so as to obtain a full-sized yolk, rich in flavour, need fear no competition. My experience is that pullets which start with $1\frac{3}{4}$ oz. eggs will reach up to 2oz. in a few months, often in less, and with generous

feeding, without which fowls cannot pay at all, will easily attain to the 2 1-8oz. egg desired by Mr. Brown in the second year, if not in the first.

Another of my critics, my old friend Mr. J. Pettipher, handles me as gently as Walton did his worm, even if he does stick the hook in. He loves to "argify," and although we have laboured together as Press-hacks and belaboured each other with words on such subjects as the dangers of wearing flannel next to the skin and the evils of hard tooth-brushes in damaging the enamel, yet we have never had an angry word or an angry thought of each other, and we shall not begin over this.

Mr. Pettipher is above all things a fancier. I am a utilitarian, and here unconscious bias again comes in. I never met a fancier yet who did not claim that he and his tribe had done more for utility poultry than we have, and, if it makes them happy, by all means let them go on thinking so.

Anyhow, we agree that small and large eggs are of equal intrinsic value. If so, why breed for extravagantly large eggs to satisfy the demand of an unknowing public? There is a great deal too much complying with the wishes of those who shout the loudest in these days, even if to their ultimate undoing. Because I mentioned that the Campine was a delicious chicken, as most blue-legged fowls are, I did not mean to imply that it was a profitable table-fowl to breed. I thought most people knew that my favourite table-fowl was the cross from the Faverolles and Orpingtons. I have said it in print often enough. This grows large enough to satisfy my friend Mr. Pettipher, and does it in less time than other crosses. It gives a hardy chicken, quick in feathering, easy to rear, and of good enough quality to satisfy any market, even if not quite the best. The Fancy has done excellent work for table-poultry which I should be the last to deny. My friend thinks that "in the near future we may find the up-to-date poultry-breeder with a fowl which combines size, quality, and record laying properties." Dreams, dreams. When we do we shall have a horse that can win the Derby one day and take three tons on a dray the next.

I am not surprised to find that Mr. Tootill disagrees with me on every point. He finds my arguments shallow. Is he quite sure that he got to the bottom of them? He asks why an increase in size should interfere with the utilitarian qualities of any stock. I don't know why. Let him ask Nature why a wren lays eighteen eggs and a pigeon two. Also why a rabbit has seven or eight at a birth, a hare about three, a sheep usually two (unless of the very largest breeds), and a cow or mare usually one. I do not know, unless it is that production, not the only form of utility, usually increases as size diminishes. It seems as if Nature did not intend us to have both ends of the stick. I am much obliged for his "important fact" that "the production of eggs is governed by the generative organs of the fowl!" I had suspected that there was some slight connection between the two before. Possibly the shelter and generous food given by man had something to do with it, as, for most wild birds, winter means a period of enforced starvation. I do not doubt Mr. Tootill's experience with the larger farm stock, although his conclusions differ so much from mine, but it may interest him to know that I was farming over three hundred acres before I was twenty years of age, that I am lecturer on agriculture to a County Council, and that I have written weekly articles on all agricultural subjects

for years, for the most critical of all readers, sixty thousands of the best farmers in England. In his remarks he is tilting at windmills and does not seem to have grasped my meaning at all. In horses, high mettle has nothing to do with the question, and I should back his sluggish 12-hand ponies to do more miles in the year than his free 16-hands horses, and to give out the most energy for food consumed. I was not arguing what paid to breed. I breed the biggest and best shires myself, not because I consider them the most economic farm horses, but because I can sell them. In the same way I do not blame him for breeding the class of Leghorn that he can sell.

So with hunters, I was not writing about sale prices. I rode and broke my own young ones for years, and the best mounts I ever had were two Irish horses of 15.2 hands. The fence never was too big, the pace too great, nor the day too long for either of them, and I am no light-weight, as in my hard-riding days I was over 15 stone. Mr. Tootill attacks me again about cows. But I said that in milking cows there are other values to consider besides mere egg-production. I keep Shorthorns because on their total output they pay me best. A cow does not, however, compare exactly with a laying hen. The former will only produce about her own money value in one year, and as there is the possibility that she may go barren at any time her beef value must be considered. The laying hen may easily produce four times her value in one year with the practical certainty that she will have a producing life of at least two years. Many of the best poultry-keepers are now holding the hens over for the third year. Her outgoing value is as nothing to this, and it pays to keep the most economic producer, even if we had to pull her neck at the finish. I have often said that anything over 5lb. weight in a laying hen is an economic mistake. I know where there is a cross-bred hen now, 5lb. in weight, which has in the last seven years laid over 1,300 eggs. She is the property of a gentleman in Sussex. Last year she laid 131 eggs. She is now mated for the first time to an Australian-bred White Leghorn. I have no time to go into details, but the hen has been one of two only and the records have been carefully kept. The profitable period of this "egg machine" has not been "brief." Many will laugh at the idea of this, but I can only say that my informant is an honourable gentleman and has given me proof which satisfies me. In mentioning sheep Mr. Tootill gets on rather delicate ground. I was writing of natural laws, by which I fear the birth-rate of the upper and middle classes is not always regulated.

In wild animals the rate of increase is in direct proportion to the food supply.

Mr. Tootill is rather at sea in discussing our laying competitions. They do not affect the question of economic production at all, as the birds are fed at the discretion of the manager, and who is to say what they exactly eat? The only way to test that is to put an 8lb. breed and a 5lb. breed side by side and give them exactly the same amount of food per head and then see which lay the most eggs. I have had nearly all the breeds in my time, between thirty and forty varieties at once, and have often fed them myself for weeks and noted the quantities required by each breed.

It was upon this that years ago I based my opinions. In any breed the very large specimens do not lay as well as the moderate-sized ones. All

utility men know this. Mr. Tootill mentions the great laying of the White Orpington, and I can confirm it. But notice he has taken one of the new varieties. Will he find any large variety that has been in existence twenty years or more that he can say the same of? Any of the Cochins, Brahmas, the Black Orpingtons, or English Barred Rocks? Does he not know that any new variety may for a time lay out of all accordance with its size even as a large cross-bred hen will often prove a great layer? New varieties are either sports from old ones or are made by crossing. The newer White Wyandotte is a much better layer than the parent Silver Wyandotte. All crosses have a vitality which carries the breeds on for a time, but sooner or later they find their level and lay much as we should expect from their size. The Hamburgs which Mr. Tootill quotes are as they were left by the fancier. Inbreeding reduced them to what they are. By the time the utility movement commenced the Hamburgs were out of the running. Yet I remember the time when they were excellent layers of comparatively small eggs. By all means let us keep the breeds that pay. If we are fanciers let us breed those that will win and if they want size let them have it.

If we are breeding table-fowls let us have the large breeds that grow quickly, and kill the pullets also. But if we are breeding for layers let us keep to the small, active breeds, not the heavy, lethargic ones, recognising that the difference in the market value of the cockerels, which we perforce must have, is as nothing to the difference in the output of eggs for food consumed from the pullets.

[We have held over several interesting communications, which we shall publish in our next issue.—Ed. I.P.R.]

MME. PADEREWSKI'S POULTRY.

MME. PADEREWSKI, wife of the famous pianist, who lives at a beautiful country seat on the border of Lake Leman, has been nominated by the French Ministry Chevalière du Mérite Agricole.

Mme. Paderewski's passion is her poultry-yard. She has over a thousand chickens and fowls of all kinds, and she has succeeded in creating some new species by cross-breeding.

Her poultry are valued at over 100,000 francs (£4,000). Recently she sold to an American purchaser a couple of White Orpingtons for 7,500 dollars.

Paderewski's farm is stocked with several presents from Sovereigns, including a flock of English sheep given him by the late King Edward. —*Morning Leader*.

The Penalty of Rotten Eggs.

Two dealers in Philadelphia, U.S.A., have been sentenced to three months' imprisonment for selling rotten eggs, and another has been fined £100 for the same offence. The Judge declared that this traffic in "rots and spots" must be broken up.

An Egg Exchange.

One of the developments at Petaluma, the famous Californian poultry district, is an exchange where eggs are received and graded in accordance with their quality and value. That is a necessity. Co-operative societies and private traders do this in the United Kingdom and Denmark.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

Mr. C. N. Goode's White Wyandotte—A Famous Partridge Wyandotte—More Continental Wins—The Conference Ring—Cups for Modern Game—Blue Varieties—Year Books—Hatching Results—Two More Shows.

MR. C. N. GOODE'S WHITE WYANDOTTE.

The splendid records that the White Wyandottes have made in the recent laying competitions have once more drawn attention to the variety as one particularly suited for the production of winter eggs. Among poultry fanciers whose names have been closely identified for many years with the White none stands out more prominently than that of Mr. C. N. Goode, and I think it will be conceded on all sides that no one has done more than this well-known Yorkshire specialist to bring it into the very front rank. Although keeping the variety chiefly for exhibition purposes, Mr. Goode has never lost sight of the excellent utility properties of this particular branch of the Wyandotte family; hence while he breeds birds which can hold their own in the strongest competition on the show bench he claims, and rightly too, that his strain of Whites has gained a good reputation as layers. I have always held—and I am not alone in this respect—that there is no reason why beauty and utility should not be combined in one strain; and I have arrived at this conclusion after experimenting for years with birds from various renowned exhibition yards. Of course this combination is the more easily obtained in the whole or self-coloured varieties, since the points of beauty are not as numerous as those of, say, a lace or a pencilled kind. Nevertheless, it means careful selection and breeding to produce a perfectly white fowl, and more especially when the colour of the legs, beak, and skin is somewhat antagonistic to that of the plumage. Mr. Goode's strain of White Wyandottes, however, is noted for its "stay white" feathering, combined with rich yellow legs and beak, a combination that is much more difficult to obtain than might be imagined.

A FAMOUS PARTRIDGE WYANDOTTE.

Those readers of the ILLUSTRATED POULTRY RECORD who are interested in Wyandottes will no doubt recollect the Partridge cockerel which Miss Rilot purchased at the International Show (Alexandra Palace) of 1904 for the record price of £165. This bird, which, by the way, had a very short exhibition career, has for the past three years had his home at Marston Vicarage, and now the offer of the Rev. T. W. Sturges has been accepted, and the world-famed bird—which I am informed "has passed through eight successive moults without any diminution of the glories of his plumage"—is to find a resting-place in a museum "to illustrate the hereditary influence in poultry." For this purpose he goes to the Royal College of Science at South Kensington.

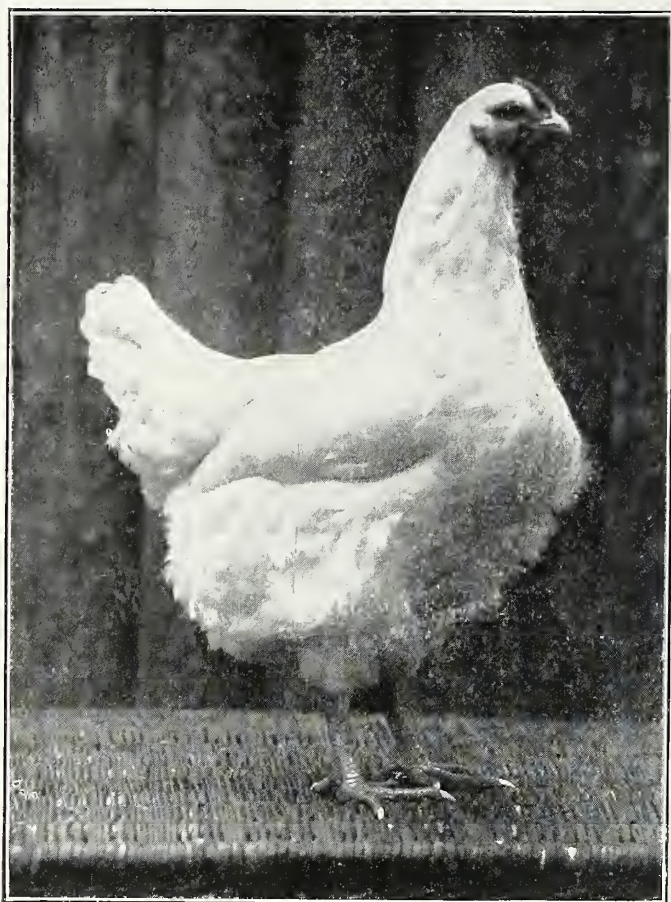
MORE CONTINENTAL WINS.

In last month's ILLUSTRATED POULTRY RECORD I referred to the prizes that Captain Max de Bathe (of Hartley Court, Reading) had won with a team of birds at the late Paris Show. Following closely on the heels of that event was the great Exhibition at Brussels, held early in March, and

here another team from the Hartley Court yards met with much success. Writing to me concerning the turkeys, Mrs. de Bathe says that they have done wonderfully well during the past season, and since both of the Paris winners, as well as the Brussels cockerel, have been disposed of, together with the remainder of the young birds hatched last year, the only Whites left at Hartley Court are those in the breeding-pens, which, of course, are being reserved for the production of the 1911 stock.

THE CONFERENCE RING.

Fanciers who ring their birds will be interested to hear that the conference rings for the present year are now available. Until quite recently these rings were obtainable on and after March 1, but last year in response to representations that were made to the conference by one or two influential



ONE OF MRS. TREVOR-WILLIAMS' WHITE WYANDOTTE PULLETS.

1st Crystal Palace, 1st Ladies' Poultry Club, 1st and Cup Southall.

specialist clubs the rings were not issued until April 1. Many breeders of the heavy varieties, in which strong bone is a great point, found, however, that it was impossible to get the rings over the feet of January-hatched chickens. To set matters right one club suggested that the rings for cockerels might be sent out on March 25 and those for pullets on April 1, but as this would probably lead to complications it was decided to issue all rings at the same time, and the date selected was March 25. I greatly question, however, if this will answer for all varieties, and in my opinion the only way to make these conference rings meet the views of every fancier is to have special ones turned out for each strain!

CUPS FOR MODERN GAME.

At the Birmingham meeting, to which I lately referred, the secretary introduced the question of the Modern Game and Game Bantam Club raising some ten-guinea challenge cups; and the proposal having been discussed, it received the hearty approval of all present. It was then resolved to invite members to contribute to a challenge cup fund, and providing the necessary amount was obtained, the club then offer for competition at the next Kendal Show (the great Game show of this country) a cup or bowl of the value of ten guineas for the best Black-Red cockerel or pullet, another for the best Pile cockerel or pullet, and one for the best Duckwing cockerel or pullet, the Brown-Reds being already provided with a cup. Mr. W. B. Fowler at once generously promised to give one of the cups, and other fanciers present kindly promised six guineas towards the other two cups. It was further resolved that competition for the cups be confined to members, also that each cup must be won three times in seven years before becoming the absolute property of any winner.

BLUE VARIETIES.

It seems a pity that those who fancy Blue fowls cannot adopt a colour that will be in keeping with the original Blue variety. Thus the Andalusian is a laced fowl, and so, too, is the Blue Langshan, as well as the more recent Blue Orpington. On the other hand fanciers of Blue Leghorns and Blue Wyandottes have decided in favour of a clear level blue for both cocks and hens, the black-topped cocks, fashionable a year or so since, not now being allowed. Obviously there are several shades of blue from which to make a selection, but the greatest difficulty will be to get a true blue. Many of those which I have seen so far have been silver-blues, some, indeed, had grey-whites, and very few approaching a solid blue. I cannot help thinking that these two latter varieties will never become popular if the present craze is continued, simply because self-coloured Blues of the stamp mentioned will never breed true. If the Blue Leghorn and the Blue Wyandotte are after popularity, breeders of them will have to alter their standard once more, unless I am very greatly mistaken. The self blue is not a natural colour, a point that appears to have been overlooked by those fanciers who have voted the "clear level blue" as the ideal.

YEAR BOOKS.

This is the season when specialist clubs issue their year books, and as far as I am able to judge from those to hand, there is an improvement in them, as a rule. The best I have seen are those issued by the Partridge Wyandotte Club and the British Rhode Island Club. Both of them are very well reproduced, and they are a great credit to the secretaries, and likely to lead to an increased membership. On the other hand, the year book issued by the Buff Orpington Club is, to put it mildly, a poor affair. Here is a club with over 160 names on the membership roll and boasting a balance in hand for the year ending November 15, 1910, of £130 13s. 5d., yet its year book is scarcely worthy of a club with a balance of as many pence as the B.O.C. possesses pounds.

HATCHING RESULTS.

Letters to hand from various fanciers assure me that the 1911 hatching season is likely to prove a

record one. From all parts of the country I hear of good returns, plenty of eggs and a high percentage of fertility. Mr. Fred Smalley, of Silverdale, had his first Game Bantams out on February 21, and these were eighteen Birchens from twenty eggs, and from old birds. As Mr. Smalley says, it is really too early for Bantams, but he could not see the force of wasting the eggs! Mr. W. Bygott, one of the Waterfowl "Kings," has Aylesbury and Rouen ducks doing well. The Aylesburys were particularly prolific in January, but owing to the cold weather and the frosts of February eggs were not as numerous in the second month. During the early part of the season he reported 75 per cent. of fertility, but later on clear eggs were quite the exception. The Bottisham Poultry Farm's White Wyandottes have been doing extremely well. Egg-production and fertility were splendid in December and January, they decreased slightly during the first fortnight of February, but have now regained a better state than ever. The Bolton Model Poultry Farm has well over a thousand chickens on hand, and some dozen incubators are kept hard at it.

TWO MORE SHOWS.

The annual meeting of the Royal Counties Agricultural Society will be held at Weymouth on June 13, 14, and 15, entries for which close on the 29th inst. Mr. Franklin Simmons, of Basingstoke, is the secretary, and those fanciers who wish to have their yards represented at one of the very best of the summer fixtures should enter without



A TYPICAL ORPINGTON HEAD.

[Copyright.]

delay. The prizes offered are on a most generous scale and there are some valuable specials for competition. July 12 and 13 are the dates for the Sussex County Agricultural Society's Show at Horsham. Mr. S. C. Sharpe, of "Brookside," Ringmer, Lewes, is secretary of the poultry department, and the event is well worth patronising. Sussex, Orpingtons, and Wyandottes are the breeds most extensively catered for, and popular judges generally officiate at the fixture.

APRIL NOTES FOR AMATEURS.

IT is now too late to set eggs for the heavy breeds, particularly Orpingtons, for winter-laying purposes. On paper it may appear that the pullets from eggs set now should begin to lay in November, allowing them a little over six months to grow; but, in actual practice, these heavy birds do not always lay at that age unless they have been hatched early and have had all the best of the summer to aid them in development. The late-hatched birds encounter changeable, and often cold, weather in the autumn, just when they are making up into full plumage, and that has the effect of checking them, with the result that from eggs set now very few birds would lay before Christmas. Some of the utility strains of Wyandottes and Buff Rocks, which are smaller and develop more quickly than the exhibition strains, might be ready to lay in November with good rearing and management, though we should prefer to devote our attention entirely to the smaller breeds.

April is perhaps the best month of all for hatching Leghorns, Anconas, and other varieties of that class. Eggs should be set at once, and may be put down until the end of the month with reasonable hopes of getting winter layers. Duck eggs should also be set as early as possible, and possibly a smaller number than usual will be hatched this month, owing to the scarcity of early eggs of the large table breeds. Turkey and goose eggs should also be set this month, but we can only recommend stock of this class to those who have unlimited ranges of grass land. It is impossible to keep geese profitably in confinement, and very difficult to keep turkeys.

Of the chickens already hatched many should now be fit to take care of themselves. There is no advantage in keeping chickens coddled in coops and brooders when they are well feathered, provided the weather is not unreasonably cold, and the youngsters will have a better chance to develop if they are put out into more roomy quarters, such as a small, well-ventilated house, or one of those useful appliances, known as a cockerel-pen, in which plenty of loose litter should be provided for the birds to sleep upon.

It is not every amateur who can put his chickens out upon fresh land, but those who can should do so, and everyone should reserve a pen or a piece of ground for young stock. It is useless trying to bring them up in a small run along with adults; for, even if they are fed by themselves, they will not have a fair chance to grow and develop. Many people rear chickens on a lawn, and there is no reason why this should not be done if the coops are moved every day. I have found that this improves the grass wonderfully, and the ground is so fresh that the chickens always thrive upon it. In any case, avoid rearing the later chickens upon the same spots as the earlier ones, for the ground will be fouled. Late rearing is always complicated when there has been an outbreak of disease among the earlier hatches, and safety can only be assured by taking the coops right away.

The prices of eggs for setting and of day-old chickens are generally reduced this month, so that amateurs can usually buy eggs for about half of what they cost last month. It is just as well to remember, however, that the exhibition strains, being larger, take longer to mature than the utility strains,

so that, except in the case of the smaller breeds, it may be a difficult matter to get birds hatched from eggs set this month fit for the shows before the end of the autumn. They may, however, come in useful for next breeding season, if they are well reared. On the whole, day-old chickens are a better investment just at the present time, because by buying them instead of eggs you will save three weeks, and those three weeks may make all the difference between success and failure in laying next winter. Before buying chickens, get a hen that has been sitting for some days and is quite quiet, and put the chickens under her one by one. If they arrive at night, they may be left in the nest till next morning; if during the day, they may be left under the hen in the nest for an hour and then be moved to a coop and fed.

If the weather turns warm during the month, maize may be discontinued, even for farm stock, and oats and wheat will be found the best staple diet, so far as hard corn is concerned. Soft food may still be given in the morning, and both breeding stock and young growing birds require meat in some shape or form. Young grass should soon supply plenty of green food for fowls at liberty, and a little may be cut for confined stock where garden produce is scarce.

The egg-preserving season will soon be here, for the price of eggs is now rapidly falling. Many amateurs and householders preserve eggs when they are cheap, but we would warn them against purchasing their supplies from unknown sources. To buy eggs from a shop and put them into water-glass is merely courting disaster, for perfect freshness is absolutely essential. The best plan is to contract with a reliable farmer to supply a number of eggs not more than three days old, and at the same time it will be desirable to point out to him the purpose for which they are required, and request him to collect the eggs two or three times a day. The reason is that broody hens are in the habit of occupying the nests all day, and if new-laid eggs remain under them even for eight hours incubation may have commenced, and there may be sufficient life in the eggs to decompose, which the preservative will not prevent.

AMONG THE BIRDS IN APRIL.

By J. W. HURST.

GROWING REQUIREMENTS.

More space, change of ground, and separation are among the present pressing necessities in places where chickens "most do congregate." It is easy to forget or delay these matters until just too late, with a consequent outbreak of disease, check to development, or other set-back that may possibly change a prospective profit into an almost certain loss. Assuming that no practical rearer would attempt to rear any considerable head of stock without a sufficiency of available land, it does not always follow that the area is used to the best advantage—or that the birds are not allowed to outgrow their sleeping accommodation without being removed to more suitable quarters. As a matter of fact, among quite the most important items of management must be numbered the removal of the growing birds from coops to hutches, and from hutches to roost-houses, a little before they are too big for the space occupied—and the same applies

where brooders are used with, if possible, even greater force.

A considerable proportion of the loss through disease and stunted growth is avoidable by the anticipation of overcrowding consequent upon the growing bulk of the birds. The proper use of the land at the disposal of the rearer includes the constant removal of the coops and hutches, in such a manner that full advantage is taken of the fresh-growing herbage and full opportunity is allowed the used portion to recover its sweetness and growth of grass—with due regard to any section that may be shut off for hay. In addition there is the constant need for separation, dividing sufficiently the young of various descriptions, different ages, and opposite sex. All sorts of young stock will not thrive equally if run in close and undivided proximity, neither can birds of all ages that are being reared for different purposes be economically fed in the same manner, and if the sexes are kept too long together the proper development of both will be checked and the attainment of a full maturity hindered. With some slight modifications these requirements of the growing stock apply all round, but ducklings that are being reared for table supply an example of the possibility of modification as regards the requisite space—they may be reared in very narrow quarters provided they are clean and dry.

TURKEY POULTS.

Beyond an occasional visit to the nests to remove the empty egg shells—without disturbing the hens—nothing more is necessary at hatching time, and is, in fact, to be avoided; having done that it is preferable to leave the birds alone until some hours after the last is hatched. In cooping, precautions must be taken to avoid any possibility of damp conditions, wooden floors are therefore essential, and these should have a bedding (at any rate in the case of the earlier hatched broods) of peat moss or other suitable material. The coops should be set at a distance of about twenty yards apart, on short, clean turf, facing South in a sheltered position; and provision must be made for the accommodation of the youngsters when the weather is wet. For this purpose I have found covered runs sufficient, or have utilised any near-at-hand shed or bullock lodge; but although it is very desirable to exercise care, there is no need to coddle the birds, on the contrary, hardiness must be aimed at without running unnecessary risks. Quite small quantities of food should be given at the commencement of feeding, but the birds want meals at frequent intervals. The hard-boiled egg diet has been generally discredited, although eggs are sometimes used in the following manner—viz., rice is well boiled in milk and raw eggs are stirred in during the process of cooking, and to this is added well-scalded fine biscuit meal, the whole being dried off with middlings or fine oatmeal. Other rearers add raw eggs to the milk in which they soak the stale crumbs of wheat bread, which is then squeezed nearly dry and given to the birds. Others, again, feed curds and fine oatmeal, which makes a very suitable ration for young birds—the caseine containing all the essentials for the production of blood and the building up of the tissues. A little rennet added to heated milk will form the curd in about half an hour. The poults may, however, very quickly be got on to a diet of Sussex ground oats, but at all periods grit and green food are very essential.

FOUL GROUND AND ITS DANGERS.

A WELL-KNOWN authority on the diseases of poultry, and one who for many years conducted *post-mortems* for a contemporary, recently declared that quite 50 per cent. of the complaints from which fowls suffer were traceable to impure or tainted ground. To some this may appear somewhat of an exaggeration, but there is no doubt at all but that "sick-soil" is the basis of much trouble. Liver disease, gapes, and a whole host of other complaints are directly caused by impure soil.

When fowls are confined continually to one plot of ground the danger of contaminating the soil is largely overcome by something being grown in the run. When the run is laid down in grass it is absolutely necessary that it should be regularly and frequently mown, otherwise the rain does not carry the manure into the soil, but lets it remain in a poisonous state among the long coarse grass. Of all methods that have been adopted by the poultry-keeper whose space is restricted, there is none so sound in practice as the division of the run. The advice to reduce the number of fowls is sound and easily given, but it is rarely adopted, as the temptation to keep a larger number than the amount of ground will safely carry is too great for the majority of small poultry-keepers to resist. A division of the space, therefore, is strongly recommended, each section being used alternately. This goes far to overcome the danger of overcrowding.

It is not only fowls in confined runs, however, that suffer from tainted soil, which often occurs where it is least expected. I remember some time ago visiting a farmer in the Midlands, who had lost hundreds of fowls during the few months preceding my visit. His method of feeding was satisfactory, the water supply was excellent, the housing was all that could be desired, yet his losses were very serious indeed. When he was informed that the land was impure, he scouted the mere idea, declaring that his fowls had acres and acres of land over which they could roam the whole day long. This was quite true, but from my observations I could tell at a glance that the birds rarely felt inclined to wander about, there being no incentive to do so as they were always fed on the same spot. The result was immediately apparent to the practised eye; the birds moped about with drooping wings, lustreless, ruffled feathers, and pale faces, all pointing to the one thing—namely, that they were living, eating, and spending their time amid an unsavoury mass, the accumulation from flocks of fowls that had been reared on the same place. There is only one way of dealing with this extremely unsatisfactory state of affairs. Give the fowls strong doses of Epsom salts and remove them to another part of the farm. If the disease has not got too strong a hold, in a short time one will see a great change in their general appearance. The fresh grass and herbs for which nature craves, and their instinct suggests, will prove an excellent remedy. The ground from which they have been removed, which is probably entirely devoid of grass, should have a strong dressing of lime and be allowed to lie fallow for some time before it is worked.

It is often asked by those whose poultry-runs are limited in area what number of fowls may be kept in a run of a given size without incurring the risk of disease from tainted soil. While this is a natural and practical question to ask, it is most

difficult to answer. As a matter of fact, no hard-and-fast rule can be laid down without regard being had to the existing circumstances, as what might be good advice under one set of conditions might be very misleading under another. For instance, were the runs in grass, ten times more land would be required than if the runs were in gravel or tightly-rolled cinders, as the latter can be frequently renewed before any impurity has penetrated below the surface. Further, the breed to be kept must enter into the calculations, as active non-sitting breeds, such as Leghorns and Anconas, require but half the amount of space per bird that is needed to do justice to the less energetic Brahma or Cochin. It will thus be seen how futile must be the attempt to reply to this very important question. As a guide, however, to the man with limited space at his command, it may be stated that for the small laying varieties, if they are to be permanently settled, the space per bird should not be less than three square yards of gravel run, and, say, thirty square yards should the plot be of grass. If the breed or breeds kept be of the larger type, more than ten should not be maintained on a piece of ground capable of safely carrying twenty non-sitters.

POULTRY RECIPES.

CHICKENS SERVED HOT.

CHICKEN AND SWEETBREAD PIE.

Divide a couple of tender young birds into small neat joints, and season these lightly with salt, pepper, and lemon juice, then arrange some of them at the bottom of a pie-dish; next put a layer of ham, or prime streaky bacon, cut in small pieces, and cover these with some of the sweetbread cut in small slices; sprinkle over each layer a few mushrooms chopped small, and add some slices of hard-boiled egg, continuing in this order until the dish is sufficiently filled. Pour some good gravy over, just enough to moisten nicely, cover with a moderately rich crust, brush over with beaten egg, make a small hole in the centre, and bake for about an hour and a half in a well-heated oven. To make the gravy put the necks and all the odd trimmings of the bird into a stewpan with the ham or bacon rind, the stalks of the mushrooms, a bunch of savoury herbs, the rind of a small lemon, an onion stuck with half a dozen cloves, and a quart of cold water, and simmer gently for an hour and a half, then strain the liquid off into a smaller saucepan, add a slight thickening of arrow-root mixed smoothly with a little cold water, and bring to the boil. If not sufficiently coloured, add a few drops of browning, or better still, a small quantity of brown roux, and stir until the gravy boils again. When ready pour a little of the gravy into the pie, through the hole in the top, and send the remainder to table in a gravy boat.

CHICKEN AND MACARONI PUDDING.

Take six ounces of cold cooked chicken and four ounces of boiled ham, or bacon, and chop together very finely, then pound the meat to a smooth paste; add to this three ounces of fine bread-crumbs, three ounces of pipe macaroni, which has been boiled previously till tender, and cut up into half-inch lengths, two ounces of fresh butter, and two well-beaten fresh eggs, then turn

the preparation into a well-buttered mould which it will quite fill. Tie a good strong pudding cloth over and boil for an hour, or steam for an hour and a half, then turn out carefully on to a hot dish, garnish with a border of fresh parsley, and serve very hot, accompanied by some well-made, pleasantly-seasoned sauce — mushroom, tomato, oyster, piquant, &c., &c., according to individual taste and convenience.

CHICKEN CUTLETS.

Free the remains of the bird from all skin, bones, and gristle, and mince the meat very finely with an equal weight of cooked lean ham, then pound together to a smooth paste. Add quarter the weight of the meat in fine bread-crumbs which have been soaked in milk and well squeezed in the corner of a clean cloth, a seasoning to taste of salt, pepper, and mace or nutmeg, a pat of fresh butter, and sufficient well-beaten eggs to bind the whole firmly together. When the various ingredients are thoroughly blended, form the mixture into small, neatly-shaped cutlets about half an inch thick; coat these in the usual way with beaten eggs and fine bread or biscuit crumbs, press the coating firmly with a broad-bladed knife until perfectly smooth, then fry the cutlets in boiling clarified fat until coloured a dainty golden brown, after which drain well, and dish up in neat order on a bed of mashed potatoes to which has been added a seasoning of salt and pepper and a pat of fresh butter. Garnish the cutlets with small sprigs of parsley, pour some tomato or mushroom purée round the base, and serve at once.

CHICKEN AND HAM CAKES.

These form an exceedingly nice and appetising breakfast dish, and are very economical, as they can be made from the smallest scraps. Prepare a mixture same as directed for "chicken cutlets," and make it up into small cakes, round, square, or any fancy shape that may be preferred; cover these with a firm coating of egg and bread-crumbs and fry in boiling, clarified fat until richly browned. Have ready an equal number of potato cakes, made to match the others in size and shape, and fry these in the same way; then drain well to ensure a pleasant crispness, and place the cakes together in twos, one of each kind; arrange tastefully on a hot dish, covered with a fancy paper, or a neatly-folded napkin, garnish with hot fried parsley and send to table as quickly as possible.

CHICKEN KROMESKIES.

Take six ounces of cold cooked chicken and four ounces each of ham, tongue, and mushrooms, and mince these all together and very finely, then put the mince into a stewpan with an ounce of butter and an ounce of fine flour which have been well worked together until thoroughly blended, a tablespoonful of chopped parsley, the grated rind and juice of a fresh lemon and a seasoning of salt and pepper; just barely moisten with stock or water and stir briskly over a moderate fire until the preparation is quite hot. Turn it out on to a dish, and when cool make it up into tiny balls, cork shapes, or flat cakes; when ready enclose each of these in slices of fat bacon cut very thin, press the edges firmly together, dip in well-made batter and fry in boiling, clarified fat. When nicely coloured, drain carefully, pile the kromeskies up neatly on a hot dish paper, garnish tastefully with crisply-fried parsley and serve.

A MODEL POULTRY FARM.

IN close proximity to the manufacturing town of Bolton, in Lancashire, is scarcely the place where one expects to find an extensive poultry-farm. Yet such is the case. The Bolton Model Poultry Farm, situated at Westhoughton, is within a short walk of Bolton, and it is surrounded on all sides by thriving and populous towns. The site, however, is beautifully situated, far away from the smoke and view of any town, within easy reach of, and sheltered by, the eminences known as Rivington Pike and the Winter Hills, cooled and ven-

that more space was wanted, and a move was made to Westhoughton. The Messrs. Dobson have been extremely fortunate in securing the services of Mr. William Bibby as manager, for it would indeed be difficult to find a more capable or a more experienced poultry-keeper. Not only is he well known in the poultry world as a clever and experienced fancier, but he is also well acquainted with the utility side of the subject, and we think the Bolton Model Poultry Farm is working along the right lines in combining both exhibition and utility features. Mr.



GENERAL VIEW OF PENS.

tilated by refreshing breezes from the Blackpool and Fylde country on the west, protected on the east by rising ground, and well open to the south.

The farm is the joint property of Mr. G. M. and Mr. W. W. Dobson, both keen and experienced poultry-keepers. Since we referred in our Who's Who in the February issue to Mr. G. M. Dobson, and gave a brief summary of his career, we need not refer to him again. Mr. W. W. Dobson is as equally keen an enthusiast as his brother, and the two have been in partnership since 1906, when they started a small, but excellently equipped, poultry-farm at Cirencester. It was soon found, however,

Bibby is the inventor of a well-known poultry food, the manufacture of which is now carried out at Westhoughton. The Messrs. Dobson are likewise fortunate in their head poultryman—Mr. Battersby.

Only three years ago the Bolton Model Poultry Farm merely comprised twenty-two acres of grazing land, with a small cottage and a few outbuildings. To-day there is a large and picturesque modern residence, a well and substantial brick-built food factory, stables, and many other buildings. The situation of the farm is somewhat bleak and exposed, but although at first sight this may appear a disadvantage, in reality it serves a

TRADE SUPPLEMENT

very valuable purpose, for, as Mr. Bibby pointed out, if fowls will thrive at West-houghton, they will thrive almost anywhere. And this is proved by actual experience, since the stock is remarkably healthy and sickness is practically unknown. In order to provide a certain amount of shelter, a large number of trees and fruit bushes have been planted, and several of the avenues of pens have been called after the particular trees that are growing there. Thus we have Sycamore Avenue, Lombardy Avenue, and Ontario Avenue. Apart from the shade provided by the trees they serve another useful purpose—namely, they assist very materially in retaining the purity of the soil, by reason of the fact that they absorb so much of the manure.

one incubators—for the Messrs. Dobson are strong believers in the artificial method of hatching—and during the busy time of the year arrangements are made to have one hatching every day. An excellent brooder-house has been made out of an old cow-byre, and since it is a stone and brick building it makes an admirable place. Many individual brooders are also used, and these are scattered far and wide about the fields. The exhibition shed is very imposing, for it contains no fewer than thirty pens, while close by there is a wash-house with three large drying and fluffing machines, each of which can accommodate twenty birds at a time. Water is laid on, and there is a large copper in one corner for heating it.



GENERAL VIEW OF POULTRYMAN'S HOUSE, INCUBATOR SHED, AND REARING GROUND.

The farm is excellently arranged, and there is scarcely a square inch of ground that has not been turned to good account. We did not actually count them, but there cannot be far short of a hundred large and spacious pens. Wide roadways, or rather avenues, divide the farm into sections, several of these being no less than 500 feet in length and 110 feet wide. The pens are of a uniform size, each measuring 75 feet square. The erection of the fences dividing the runs was a rather costly matter, since owing to the smokiness of the atmosphere wire netting rots in the space of a very few years, and thus wooden laths have had to be employed.

The large incubator shed contains twenty-

Perhaps one of the most striking features of the Bolton Model Poultry Farm, apart from the stock, is its up-to-dateness in all respects. The manager's office is connected with all parts of the farm by telephone, and it is thus possible for Mr. Bibby to be in constant communication with all his staff. This is an important matter, since there is a great amount of office work to be done, which of necessity occupies a good deal of Mr. Bibby's time, and compels him to spend many hours of the day in the office. There is a modern and complete gas-generating station, for the Messrs. Dobson make their own gas, which is used in their residence as well as in all the out-buildings and sheds. The gas is composed

of about 98½ per cent. of air and 1½ per cent. of petrol, and it is made by a "Loco" gas plant at a cost of 1s. 9d. per 1,000 cubic feet, as against the local gas plant at 3s. 5d. per 1,000. Mention must also be made of the engineer's department, under the supervision of Mr. D. R. Dobson. A light railway runs through the farm connecting the main buildings, and it is found of great service in conveying foods, building materials, and the refuse from the houses. The farm possesses its own locomotive — The Scout — and trucks, an illustration of which we give on this page.

It is quite impossible in a short review to do full justice to the stock which at present is to be seen at the Bolton Model Poultry Farm. There are many farms in the kingdom which are famous for one breed or another, but few indeed are there which can lay claim to excelling in so many different varieties. And there is another very important fact in this

varieties which are specialised in are as follows: Buff Plymouth Rocks, Buff, Black, and White Orpingtons, Blue Leghorns, Black, White, Partridge, and Blue Wyandottes, and Rhode Island Reds. It is impossible to give a list of the winnings of birds from the Bolton Model Poultry Farm, but at random we take two examples. The following is the record so far as Buff Plymouth Rocks are concerned during 1910: Royal Counties, First; Bolton, First, Second, Third, Reserve; Birkenhead, Second; Garstang, First, Second; Lancaster, First, Special, Reserve; Bingley, two Seconds; Goosnargh, two Firsts; Aughton, First, Special; Kirkby Lonsdale, two Seconds; Saddleworth, First, Special, Second; Altrincham, Second; Northampton, First; Manchester (Club Show), Second; Manchester (Selling Class), First, Second; Chester, Second, Third; Crystal Palace, First; Ulverston, First and Second. Blue Wyandottes succeeded in gaining the following prizes: Royal, First and



THE SCOUT.

connection which must not be lost sight of. Practically every bird now on the farm has been born and bred there; certainly this is so in the case of every one which was exhibited during the 1910 season. This is a remarkable record, and one of which any fancier might be justly proud. It is far away a greater honour to win with birds of one's own breeding than with those which have been purchased. The former represents skill and experience; the latter, oftentimes, merely a long purse. The

Third with cockerel; Royal, Second with pullet; Birkenhead, Second and Third with cockerel; Garstang, Third with pullet; Bingley, First with cockerel, Second with pullet; Goosnargh, Third with pullet; Hayward's Heath, Third with pullet; Kirkby Lonsdale, Second and Third with cockerel; Galgate, First and Second with cockerel, Third with pullet; Dairy, Third with cockerel, Third with pullet; Crystal Palace, First and Third; Leeds, (Club Show), First, Special, and Third.

TRADE SUPPLEMENT

Not only are there many magnificent individual birds, but the breeding-pens are equally remarkable. For instance, in the case of one of the seven pens of Buff Orpingtons every pullet is the winner of a First Prize, while in the case of a pen of Buff Rocks every pullet has gained a First Prize and the cock was First at the Palace. With a foundation such as this the Messrs. Dobson should have a brilliant future.

As we have already indicated, there is a thriving food business carried on in connection with the Bolton Model Poultry Farm. We asked Mr. Bibby to give us some particulars

requires more than the ordinary cereals and grain, and for this branch of the poultry I claim a line of ancestry as a food specialist, my father and his father before him being food providers as well as successful breeders. We hold a secret of how to make bone, and we put that into the parent birds, who carry it into the egg which forms the chicken; when the chicken is born, from the second day of its birth, we feed it on 'Makebone' food, of which we are the sole proprietors. As a proof of this we gave an object-lesson on this farm, and called attention to it in the Press, when, in the month of January, we had



A FEW OF THE TROPHIES WON BY THE BOLTON MODEL POULTRY FARM.

concerning this branch of the business, which he did willingly. Good food is "the stronghold of the strong, healthy stock of the Bolton Model Poultry Farm. Mating for breeding is a science, and so is feeding for breeding. To produce eggs and chickens from March to September is no difficult task, but to produce fertile eggs from October to March

1,000 chickens running about all hatched from our own eggs, produced by our own manufactured foods. More than one expert and judge asked in the early spring how we got such size, and the faithful answer was by feeding on 'Makebone.' 'Makebone' is not a flesh and fat former, but a consistent bone maker."

MARKETS & MARKETING.

Week Ending February 25.

The markets were quiet, and supply and demand seemed pretty well balanced. Chickens and ducks were in fair demand, but the supply was rather short. New-laid eggs continued to be somewhat scarce for the time of year, but foreign supplies were fairly plentiful.

Week Ending March 4.

There was little change on the markets, and in nearly all branches of the business things were quiet. Chickens were rather more plentiful than is usual at this time of year, and supplies were quite equal to the demand. Good ducks were very scarce and very dear; geese and turkeys were conspicuous by their absence, but Guinea-fowls were fairly plentiful, and realised from 2s. 6d. to 3s. 6d. each.

New-laid eggs were rather more numerous than the preceding week, but they were by no means plentiful for March.

Week Ending March 11.

The markets were rather busier, both supply and demand being greater than during the preceding few weeks. The older birds were being replaced by spring chickens, and naturally the demand for the latter was increasing. New-laid eggs were more plentiful, and prices were rather lower.

Week Ending March 18.

There was little of interest to note on the markets during the week ending March 18, and things generally were rather quiet. A few ducklings arrived, but they were very small and commanded quite a fancy figure.

New-laid eggs were more plentiful, and there was a drop in their value.

AN IRISH EXAMPLE.

THE value of improved methods is clearly brought out by the annual report of the King's County Committee of Agriculture, which, referring to its poultry scheme, says: "The poultry industry is looked down upon; yet from Garrycastle district alone over 800 boxes of fattened poultry were dispatched to the London market during the past three years. The average price received was 7s. 9d. per pair. Deducting 1s. 8d. as the cost of fattening each pair and the cost of carriage to London, the net average receipt per pair was 6s. 1d. The average price of chickens in the district during the same period was 3s. 3d., a clear gain of 2s. 10d. on 2,400 pair, which meant increased money in circulation in the district to the extent of £340! £340 of a profit in a brief period in one district as a result of one scheme's operation! At the present time it only needs organisation and the consequent solving of the transit question to multiply ten times over the profits derived from the poultry industry."

FORCING UP PRICES.

THE *Orange Judd Farmer* is responsible for the statement that the cold storage companies have lost millions of dollars this season by attempting a "corner" in eggs, as increased winter production compelled them to unload. Useful though such combinations are in their earlier stages, they may grow into a positive danger to both producer and consumer. Our contemporary suggests the establishment of Farmers' Co-operative Cold Storage Plants.

WHERE PRICES ARE LOW.

WRITING on the low level of prices in West China generally, the United States Consul at Amoy, Mr. Julain H. Arnold, states that in Central Shansi one can purchase nine good-sized hen's eggs for the equivalent of a halfpenny, one good-sized chicken for 2½d., mutton at 1½d. to 2½d. a pound, without the bone, pigeons at halfpenny each, pheasants at 3d. a brace, good coal at 4s. 2d. a ton, wheat at 1s. 0½d. a bushel, and flour at a farthing a pound. A foreign missionary lady living in that section informed him that she got along nicely by spending no more than 10s. 5d. a month for food.

AGRICULTURAL COLLEGES AND POULTRY INSTRUCTION.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—Thank you for your courtesy in sending me a copy of the March number of the ILLUSTRATED POULTRY RECORD, and for calling my attention to the article by "Statistician" upon Agricultural Colleges and Poultry Instruction.

As the article appears to have been founded upon an old report, it may be in several instances misleading, and at any rate it is so in regard to the facts given as to this College and the counties which it serves.

Since August, 1909, this institution has had a resident Poultry Instructor, whose whole time has been given to the one subject. Special instruction is given to students in this branch of Agriculture, and a considerable outlay has been expended in buildings and appliances to make the equipment justify the importance of the subject. In addition to our regular students, each year courses are held for Rural Elementary Teachers, and Poultry-Keeping forms an important subject of the course. In both Shropshire and Staffordshire lecturers are engaged in giving courses of instruction at rural centres.

I should be glad if you would make these facts known through the medium of your paper, as the information given in the article referred to is misleading at the present time, although it may have been correct a couple of years ago.—

Yours, &c.,

P. HEDWORTH FOULKES, *Principal*.

Harper-Adams Agricultural College, Newport, Salop, March 7, 1911.

[NOTE.—I thank you for permitting me to see the letter from Principal Foulkes, and I am delighted to learn of the developments at Harper-Adams College, as will all who are interested in the poultry industry. The publication from which my facts were taken was only issued by the Board of Agriculture in November last, much later than usual. It is desirable that these records should be given to the public with greater promptitude. I can, however, only deal with them as published.—STATISTICIAN.]

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—In an article in No. 6, vol. III., of the ILLUSTRATED POULTRY RECORD I see that the University College of Wales

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDING MARCH 18, 1911.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
Surrey Chickens	3/0 to 5/6	3/0 to 5/6	3/0 to 5/6	3/0 to 5/6
Sussex "	3/0 " 5/6	3/0 " 5/6	3/0 " 5/6	3/0 " 5/6
Yorkshire "	2/9 " 4/0	3/0 " 4/6	2/9 " 4/6	2/9 " 4/6
Boston "	2/9 " 4/0	3/0 " 4/6	2/9 " 4/6	2/9 " 4/6
Essex "	2/9 " 4/6	3/0 " 4/6	2/9 " 4/6	2/9 " 4/6
Capons	4/6 " 6/6	5/0 " 6/6	5/0 " 6/6	5/6 " 6/6
Irish Chickens	2/6 " 3/3	2/6 " 3/6	2/6 " 3/6	2/6 " 3/9
Live Hens.....	2/3 " 3/0	2/3 " 3/3	2/3 " 3/3	2/3 " 3/0
Aylesbury Ducklings..	—	—	—	—
Ducks	3/6 " 5/6	3/6 " 5/6	3/6 " 5/6	3/6 " 5/6
Geese	0/9 " 1/0	0/8 1/2 " 1/0	0/8 " 1/0	0/8 " 1/0
Turkeys, cocks.....	0/8 1/2, 0/11	0/9 " 1/0	0/8 " 0/10	0/8 " 0/11
" hens	—	—	—	—

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	Each.	Each.	Each.	Each.
Grouse	—	—	—	—
Partridges.....	—	—	—	—
Pheasants	2/6 to 3/0	—	—	—
Black Game	1/2 " 1/4	1/0 to 1/3	1/0 to 1/3	1/1 to 1/3
Hares	2/0 " 3/0	2/0 " 3/0	2/0 " 3/0	2/0 " 3/0
Rabbits, Tame	1/3 " 2/6	1/3 " 2/6	1/3 " 2/6	1/3 " 2/6
" Wild	0/6 " 1/0	0/6 " 1/0	0/6 " 1/0	0/6 " 1/0
Pigeons, Tame	—	—	—	—
" Wild	—	—	—	—
Wild Duck	2/6 " 3/0	2/9 " 3/3	2/9 " 3/0	2/6 " 3/0
Woodcock	—	—	—	—
Snipe	—	1/0 " 1/6	—	—
Plover	—	—	—	—

ENGLISH EGGS.

MARKETS.	Per 120.	Per 120.	Per 120.	Per 120.
LONDON	10/0 to 13/0	10/0 to 11/0	9/6 to 10/0	9/- to 10/-
Provinces.	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-
MANCHESTER	9 to 10	9 to 10	10 to 12	12 to 13
BRISTOL	1/2 per doz.	1/2 per doz.	1/0 per doz.	1/1 per doz.

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.	Turkeys. Per lb.
Russia	1/4 to 2/6	1/8 to 3/0	—	0/4 to 0/5	0/8 to 0/10
Belgium	—	—	—	—	—
France	—	—	—	—	—
United States of America	—	—	—	—	—
Austria	—	—	—	—	—
Canada	—	—	—	—	—
Australia	—	—	—	—	—

IMPORTS OF POULTRY AND GAME. MONTH ENDING FEBRUARY 28, 1911.

COUNTRIES OF ORIGIN.	Declared Values.
Capercailzie.....	3/0 to 3/6
Black Game.....	1/2 " 1/4
Parmigan	0/9 " 1/0
Partridges.....	1/9 " 2/0
Quail	0/9 " 2/0
Bordeaux Pigeons	0/10 " 1/6
Hares	—
Rabbits	—
Snipe	—
Totals	£10,965
	£141,313

IRISH EGGS.

DESCRIPTION.	1st Week. Per 120.	2nd Week. Per 120.	3rd Week. Per 120.	4th Week. Per 120.
Irish Eggs	9/3 to 11/6	9/6 to 11/6	9/6 to 11/6	8/6 to 10/0

FOREIGN EGGS.

DESCRIPTION.	1st Week. Per 120.	2nd Week. Per 120.	3rd Week. Per 120.	4th Week. Per 120.
French ...	9/3 to 11/0	9/3 to 11/6	9/3 to 11/0	8/6 to 9/9
Danish ...	9/6 " 11/0	9/6 " 11/0	9/6 " 11/0	8/6 " 9/6
Italian ...	9/6 " 10/0	9/6 " 10/0	9/6 " 10/0	8/6 " 9/3
Austrian...	8/3 " 9/3	8/6 " 9/6	8/6 " 9/6	8/6 " 9/0
Russian ...	8/0 " 9/0	8/0 " 9/3	8/3 " 9/0	7/6 " 8/0

IMPORTS OF EGGS.

MONTH ENDING FEB. 28, 1911.

COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values.
Russia	81,466	£30,666
Denmark	247,132	£122,563
Germany	45,265	£18,595
Netherlands	37,345	£18,551
France	39,238	£21,554
Italy	89,808	£47,080
Austria-Hungary	103,186	£44,424
Other Countries	197,039	£70,198
Totals.....	840,479	£373,631

Aberystwyth, is included in the list of institutions in which no poultry instruction is given. While it is perfectly true that no courses of instruction in the management of poultry are given to the students in the College, I desire to point out that we employ an instructress to give instruction in this subject in the counties affiliated to the College, and that a number of classes in the subject are held in our area every year. This has also been going on for several years. There are reasons why the subject is not included in our in-college courses, but we have certainly done a good deal towards giving instruction to farmers with reference to the matter generally. I do not wish to make any criticism of the article to which I refer, but simply to point out that this College should not be included amongst the institutions at which no poultry instruction of any kind is given.—Yours, &c., C. BRYNER JONES, Professor of Agriculture.

University College of Wales, Aberystwyth, March 9, 1911.
[NOTE.—Although Professor Bryner Jones's letter shows that instruction in poultry is given in the counties affiliated to the Aberystwyth College, as indicated in the article in the ILLUSTRATED POULTRY RECORD of December last (Vol. III., p. 108) that does not affect the statement as to teaching at Aberystwyth College itself. The whole purpose of my article in the last issue was to show the present position so far as the colleges are concerned as distinct from county classes. The fact that Professor Bryner Jones confirms what I said will lead all to the hope that so serious an omission may be speedily rectified. When that is so, knowing the needs of Wales, no one will, I am sure, be better pleased than that gentleman. As matters are now, in-college students learn little or nothing as to poultry, and, consequently, they naturally think it is of small moment in agricultural work.—STATISTICIAN.]

THE SMALL-HOLDINGS EXHIBITION.

ARRANGEMENTS have been practically completed for the establishment of the Small-Holdings and Country Life Section at the Crystal Palace in connection with the Festival of Empire. The country village with its homestead and small farm will be a unique feature on distinctly utilitarian lines.

The Poultry Division is already attaining vast proportions; in fact, there are indications that it will constitute the largest exhibition of utility poultry ever organised. A series of experiments are to be installed for the purpose of demonstrating the different methods of feeding, both for egg-producing and fattening. A temporary poultry college will be established, where pupils may derive instruction in all branches of the industry. A number of experts have been enlisted, and the committee who will have charge of the arrangements includes Mr. Henry Wallis (President of the Poultry Club of England), Mr. Edward Brown (Hon. Secretary of the National Poultry Organisation Society), Mr. Henry Abbot, Mr. Randolph Meech, Mr. W. Tamlin, Mr. H. S. Lewer (*Feathered World*), Mr. C. A. House (*Poultry World*), Mr. W. H. Walton (*Feathered Life*), and Mr. E. T. Brown (ILLUSTRATED POULTRY RECORD).

During one month of the show there will be conferences, lectures, and demonstrations on poultry-rearing, egg-production, and matters closely allied with the development of the industry. Valuable prizes in the form of cups and medals have been scheduled.

LANCASHIRE COUNTY COUNCIL FARM.

MISS BROWN, who has had for several years charge of the Poultry Department on the Lancashire County Council Farm, at Hutton, near Preston, has resigned that position in view of her approaching marriage, and Mr. C. H. Dobbin, who has held

a similar position at the Midland Dairy Institute, Kingston, near Derby, has been appointed in her place. The work of Miss Brown, whose portrait we gave some time ago (Vol. II., p. 16), is well known, and during her time has grown considerably and exerted a wide influence in the County Palatine. Everyone will accord her the warmest wishes for the future, and also that Mr. Dobbin may extend still further the teaching at Hutton.

DIPLOMA EXAMINATIONS.

AN examination in practical horticulture, under three expert examiners, will be held in the second week in July, in a well-known private garden near London. Candidates must be twenty years of age, or over, and must have passed 1st or 2nd in the R.H.S. Examinations, or that of the Board of Education in two subjects, horticulture being one. Also they must have had two years' training at a recognised school or college, and one year's subsequent practical work, to be vouched for. If no school-training has been taken, five years' practical work must have been done, and be vouched for.

SUBJECTS:

Management of vegetables, fruit, and flowers, outdoor and under glass.

A poultry examination on similar lines is being arranged for the autumn.

All particulars of both examinations can be obtained of the Secretary, Women's Agricultural and Horticultural Union, 64, Lower Sloane Street, S.W.

TRADE NOTICES.

Poultry Medicines.

A very important addition has lately been made to the famous poultry food business carried on by Messrs. A. Thorpe and Sons, of Rye, Sussex. They have obtained the sole rights of manufacture and distribution of Mr. G. A. Palmer's well-known and well-tried poultry medicines, which have been sold by the inventor for some years past. These medicines are familiar to most of the large poultry-keepers in the United Kingdom. Mr. Palmer is one of the leading poultry experts of the present day, and he has had exceptional opportunities of studying disease. He has in his possession testimonials which prove that he has cured diseases which have hitherto been considered incurable. Among the principal medicines are included a Roup powder, a cure for Tuberculosis, one for Cholera, and one for Liver disease. There is also a preventative and cure for Gapes, and a disinfectant powder. We cannot, of course, enumerate them all, but we recommend our readers to write to Messrs. Thorpe and Sons for full particulars. Our advice is not to wait until disease has actually attacked the birds; but rather to lay in a stock of medicines, so that on the first symptoms the birds may be treated.

Owing to extreme pressure on our space we are compelled to hold over Answers to Correspondents. We have, however, replied to all by post.

The Clock House Poultry Farm.

A very attractive catalogue has been issued by Mrs. Trevor-Williams, of Byfleet, Surrey. It contains full information concerning her excellent White Orpingtons and White Wyandottes, with which she has been so very successful during the last two seasons.

"The Farm With a Future."

Mr. Holmes Hunt, of Hellingly, Sussex, has issued a very comprehensive catalogue, which gives much valuable information regarding his many specialities. Mr. Holmes Hunt is becoming quickly known as one of the most enterprising poultry-breeders of the day, and his catalogue is well worth a careful perusal.

Mr. Walter Buxton.

The catalogue of the Trinity Poultry Farm, at Bentworth, Alton, Hants, gives full particulars of Mr. Walter Buxton's famous stock. In Jubilee Orpingtons Mr. Buxton has been remarkably successful, and has won many prizes at all our leading shows. We recommend our readers to write to Mr. Buxton for a copy of his 1911 catalogue, for it is well worth studying.

The Swanley Poultry Farm.

Mr. Art. C. Gilbert, of Wilmington, Kent, is so well known in the poultry world that naturally a great deal of interest attaches to his annual catalogue. The catalogue for 1911 is a splendid production, and contains no fewer than four large coloured plates, as well as a large number of whole page illustrations. As the farm is only seventeen miles from the centre of London it is very easy of access, and those who are interested in poultry-keeping could not spend a day better than visiting this up-to-date farm, stocked as it is with some of the finest birds in the kingdom. If a visit cannot be made intending purchasers should certainly secure a copy of this excellent catalogue.

Poultry and Poultry Farming.

We have received from Mr. Robert Miller, Stirlingshire Poultry Farm, Denny, a copy of his new illustrated catalogue and poultry book, which makes very interesting reading. It is very comprehensive, and contains much information regarding the various strains of poultry raised on the exposed uplands of Stirlingshire. Mr. Miller is recognised as the pioneer of the poultry industry in Scotland and the general provider to the poultry-keeper. His day-old chicks proved so successful that in the past four years nearly a quarter million of them have been dispatched to all parts of the United Kingdom.

Mr. and Mrs. Pyne.

The catalogue issued by this enterprising firm is very complete, and contains full particulars of the strains of fowls for which Mr. and Mrs. Pyne are so well known. The address is Ravenscar, Yorks, and is sent free on application.

Year-Books.

We have received the following Year-Books: White Wyandotte Club (price 4d. in stamps, from J. Stephen Hicks, Bottisham, near Cambridge); Black Wyandotte Club (price 3d. in stamps, from Mrs. Bury, Lomber Hey, High Lane, Cheshire); British Rhode Island Red Club (price 6d., from George Scott, The Windmill, Pudsey, Yorks); Buff Plymouth Rock Club (free from A. A. Fleming, White House, Pulloxhill, Ampthill, Beds.).

Mr. E. A. Cass.

Mr. E. A. Cass, of Candlesby House, Burgh, Lincs., has of late been extremely fortunate with his Buff Orpingtons, in which variety he is so well known. At the Sheffield Club Show he won second and fourth, while the first prize and cup were awarded to Miss Carey with a pullet that had originally belonged to Mr. Cass,

while the third winner was a bird that he had also bred. This is a wonderful record, and one of which any fancier might be justly proud. Altogether Mr. Cass has been remarkably successful of late.

Mrs. Prideaux's Exportations of Yokohamas.

The following are among the exports of Mrs. L. C. Prideaux, of Lindfield, Sussex, during the last three months: Trio, per Anglo-Swiss Express, to Geneva; one cock and four hens, per American Express Co., ss. Winifredian, to Fall River, Mass.; and two pens each of one cock and five hens, per ss. Minneapolis and ss. Minnehaha, to Columbia University, New York. Up to the present they have all reached safely and given satisfaction. Mrs. Prideaux sent four Yokohamas to Utrecht Show and gained two firsts and two seconds. To Paris Show there were dispatched birds which were awarded first, second, two reserves, a silver medal, and a bronze medal.

Exportations.

Messrs. William Cook and Sons have during the past few weeks shipped the largest number of birds to clients abroad of any similar period during their forty years' business experience from their only address, which is the "Home of the Orpingtons," Orpington House, St. Mary Cray, Kent, including the following: Per ss. German, to Alcoa Bay, three pairs of Black Minorcas and the same of White Leghorns; per ss. Belgrano, to Rio de Janeiro, a pen each of American Mammoth Bronze Turkeys and White Orpingtons; to Ecclloo, Belgium, a Buff Orpington cockerel; per ss. Peninsula, to Lisbon, a trio each of Indian Game, Langshans, Silver Wyandottes, and two trios each of Black Orpingtons, Plymouth Rocks, and White Wyandottes; to Grenoble, two Langshan cocks; per ss. Calderon, to Rio, two pens of Black Orpingtons, Houdans, White Leghorns, White Wyandottes, and Buff Orpingtons; and also to Rio, a pen each of Buff Orpingtons, White Orpingtons, Plymouth Rocks, and Black Orpingtons; and per ss. Devonshire, two pens each of Black Orpingtons, Buff Orpingtons, White and Jubilee Orpingtons, Minorcas, Brown Leghorns, Partridge Wyandottes, Silver Wyandottes and White Wyandottes, three pens of White Leghorns and Houdans; per ss. Sergano, one trio of Indian Game, Langshans, Plymouth Rocks, Black Leghorns; and per ss. Malaga, one pen each of Black Orpingtons, White Orpingtons; and per ss. Cervanter, to Buenos Aires, a pen each of American Mammoth Bronze Turkeys, Aylesbury Ducks, and three pens each of White Leghorns and White Orpingtons; and to Hungary, a pen each of Buff and White Orpingtons; per ss. Assyria, to Calcutta, two pens of Buff Orpingtons; and to Nijni Novgorod, Russia, a pair of Buff Orpingtons and a pen of Plymouth Rocks, with four separate cockerels; per ss. Tagus, a pair each of Light Brahmans and Buff Cochins; per ss. Kildonan Castle a pen each of Rouens and American Mammoth Bronze Turkeys; and several consignments of Black, Buff, White, Jubilee, and Spangled Orpington eggs to Germany, Canada, and France; per ss. Aragon, to Rio de Janeiro, a pen each of White Wyandottes, Buff Orpingtons, Silver Spangled Ham-burghs, Silver-Grey Dorkings, and Buff Orpington Ducks; to Buda-Pesth, a pen of White Orpingtons; to Lisbon, two trios of Wyandottes, three of Plymouth Rocks, two of Black Orpingtons, and one each of Langshans, Indian Game, Partridge Wyandottes, and two of Silver Wyandottes; per ss. Minneapolis, to New York, 20 White and Black Orpingtons; to different clients in France, several pens of Buff Orpingtons; to Rio de Janeiro, a pen of Indian Game; and to East London, per ss. Kildonan Castle, a pen each of American Mammoth Bronze Turkeys and Rouen Ducks; to Lisbon, per ss. Britannia, a pen each of Barred Rocks and Black Orpingtons; per ss. General, to Mombasa, two pens each of White Leghorns and Buff Orpingtons; and to Samois, France, a trio each of Barred Rocks and Rhode Island Reds.